

Socially Responsible Investments: Costs and Benefits for University Endowment Funds*

George O. Aragon
Arizona State University

Yuxiang Jiang
Southwestern University of Finance and Economics

Juha Joenväärä
University of Oulu

Cristian Ioan Tiu
University at Buffalo

March 2019

ABSTRACT

We analyze a comprehensive database detailing the socially responsible investment (SRI) policies of college and university endowments funds. We find that SRI policies are more common among funds that interact with many stakeholders (e.g., students, alumni), and among universities that rely more on donor-related revenues and less on endowment-related revenues. SRI policies are associated with greater charitable donations for the university, especially from donors outside the energy, gambling, and tobacco industries. However, SRI policies also predict greater fund management costs and return volatility. Overall, SRI policies attract donations to the university but impose a drag on fund performance. More precisely, we find that the additional donations attracted by SRI policies begin to accumulate early in a fund's journey toward greater social responsibility, while investment performance is affected only later in the cycle and only if very restrictive SRI policies are imposed. Our findings suggest that there is a benefit from approaching SRI policies, albeit in a cautious manner.

Keywords: Endowments, socially responsible investing, charitable donations
JEL Codes: G13, G14

* George Aragon: Department of Finance, Arizona State University, Tempe, AZ, U.S.A. Tel: +1 (480) 965-5810. Email: george.aragon@asu.edu. Yuxiang Jiang: Southwestern University of Finance and Economics, Chengdu, Sichuan, China. Email: yuxiangj@swufe.edu.cn. Juha Joenväärä: University of Oulu, Oulu, Finland. Email: juha.joenvaara@oulu.fi. Cristian Ioan Tiu: Department of Finance, University at Buffalo, Buffalo, NY, U.S.A. Tel: +1 (716) 645-3299. Email: ctiu@buffalo.edu. We thank Hendrik Bessembinder, Gregg Fisher, Michael Kahn, Amy O'Brien, Ken Reed, Dave Richardson, Ed Schneider, Lindy Sherwood, Dan Sperrazza, Scott Warman and participants in the Socially Responsible Investment panel at the 2019 NACUBO Endowment Debt Management Forum for constructive comments that helped improve this paper. We thank John Griswold, Bill Jarvis and Ken Reed for continued help with the NACUBO data. This research is supported by a grant from TIAA Institute.

1. Introduction

There is growing evidence that investors realize nonpecuniary benefits from investing in a socially responsible manner and are willing to sacrifice financial returns from doing so.¹ Several asset managers cater to these preferences by offering products that adopt socially responsible investment (SRI) policies in their capital allocation decisions.² In this paper, we investigate the determinants and consequences of SRI policy adoption by university endowments. Our endowment setting presents an ideal testing laboratory where investments are designed to have an infinite horizon and where stakeholders do not merely prefer but rather drive social responsibility efforts.

The adoption of SRI policies involves an important tradeoff well reflected in the microcosm of university endowments. On the one hand, investment income is a crucial source of funding for university operations. Imposing constraints on the activities of endowment managers, like fossil fuel divestment, could hamper investment performance and jeopardize university funding. Thus, universities relying more on investment income may be less inclined to pursue SRI if doing so leads to underperformance in the long run. On the other hand, if stakeholders derive benefits from SRI, then in a Coasean framework capital will shift toward managers of SRI portfolios even when these investments underperform. In our university setting, this is reflected in the growth of revenues from non-investment sources, like gifts and

¹ For example, mutual fund investors allocate more capital to funds with higher sustainability rankings (Hartzmark and Sussman, 2018) and funds with SRI objectives (Bialkowski and Starks, 2016). Venture capital investors also accept lower returns from so-called “impact” funds dedicated to intentional generation of social or environmental impact alongside a financial return (Barber, Morse, and Yasuda, 2018).

² US SIF: The Forum for Sustainable and Responsible Investment, an organization which promotes SRI investment practices, estimates that the market size of investors considering these criteria has reached \$8.72 trillion in 2016, an increase by 33% since 2014.

donations. In other words, charitable giving from a university's stakeholders (e.g., alumni, charities) in support of its social mission could represent a compensating differential for SRI-related drags on investment performance.

In this context, we examine the following research questions: What determines a university decision to adopt SRI policies in its endowment fund? For example, are SRI policies more likely among universities that rely less on investment income and pursue religious and social issues as part of a broader university mission? Does the adoption of such policies negatively impact endowment performance, such as greater management costs and lower alpha? Finally, do universities capture any benefits from implementing SRI policies – specifically, does an endowment's commitment to greater SRI attract greater gifts and donations to the university, especially from donors that are more supportive of issues related to social responsibility and sustainability?

We address these questions using a large sample of 1,012 university endowments which completed the National Association of College and University Business Officers (NACUBO) surveys over 2009-2017. Our sample includes several key characteristics related to endowment performance and investment policies, including the extent to which endowment managers follow SRI policies as well as whether various stakeholders require that these policies are adopted. In addition, we use the Chronicle of Philanthropy's gift-level database containing large charitable gifts (i.e., \$1 million or more) from individuals to universities over the same period. This database includes the identities of individual gift donors and their sources of wealth.

Our analysis reveals several new empirical findings. We show that the percentage of endowments adopting SRI policies grows over our sample period, from 30% in 2009 to 46%

in 2017 (Figure 1). This is economically large in dollar terms as SRI endowment assets totaled \$224 billion in 2017. The prevalence of SRI is also highlighted by the fact that well under 10% of the boards of endowments pressured to adopt SRI policies clearly state that will refuse to consider it. This evidence is broadly consistent with the rapid growth in SRI documented in the mutual fund sector (Bialkowski and Starks, 2016).

Next, we examine the decision of endowments to adopt SRI policies. We posit that SRI policies are more common among endowments that face greater pressure from university stakeholders (students, alumni) to pursue such policies. Also, given the potential drag of investment constraints on financial performance, we would expect SRI policies to be less frequent among universities that depend more on investment income to fund university operations. Our empirical findings support both hypotheses. For example, a one standard deviation increase in our stakeholder pressure variable is associated with a 13.1% increase in SRI adoption rates (p -value = 0.00), while a one standard deviation increase in the contribution of endowment income to the university budget is associated with a 2.5% decline in the likelihood of SRI adoption rates (p -value = 0.05).³

How do universities benefit from greater social responsibility? We argue that SRI policies attract substantial financial support to the university in the form of gifts and donations. Consistent with this hypothesis, we find a positive relation between donations and SRI policies. Specifically, donations are 33.3% per year higher among universities that incorporate SRI policies into their endowments (t -statistic = 2.2). Using the more granular data from the Chronicle of Philanthropy, we further show that the greater donations associated with SRI

³ Our measure of stakeholder pressure is based on the number of different groups of stakeholders that request the endowment to incorporate SRI consideration into their investment decisions. We also confirm Smith and Smith's (2016) finding that SRI policies are more common among universities with a religious affiliation.

stem mainly from donors that derive their wealth from outside the oil, energy, tobacco, and gambling industries and, therefore, more in line with SRI policies. This helps validate our story that SRI policies allow universities to attract donations from stakeholders that value social responsibility and sustainable investing.

Are SRI policies merely cheap talk and do not actually impose any constraint on the investment decision of the endowment? We address this by comparing the asset class exposures inferred from endowment returns. We find that stated SRI policies are indeed associated with a lower exposure of endowment returns to the returns on indexes that track stocks within the oil, fossil fuel, and vice sectors. We also find no evidence that SRI endowments use more opaque investments (e.g., investing in private equity or hedge funds) to sidestep their policy constraints. Together, this shows that stated SRI policies have a meaningful impact on investment decisions and are not merely cheap talk.

We then turn to the impact of SRI policies on investment performance. Investment constraints imposed by SRI policies could adversely impact performance due to greater management costs and diversification losses associated with divestment from market sectors that conflict with SRI objectives. Consistent with this hypothesis, we find that SRI policies indeed predict significantly higher management costs of 9.7 basis points per year. This is economically important given that the average management cost is 41.2 basis points. Furthermore, we find some evidence that SRI policies are associated with greater return volatility and lower net-of-fees alpha, especially in the earlier part of our sample period. Overall, our findings suggest that universities pursuing greater social responsibility in their endowment investments do so at the expense of financial returns.

Our findings show that SRI policies attract greater donations, but also impose a drag on investment performance. Therefore, in our final analysis, we examine total additions to endowment assets – i.e., net returns plus donations – to measure the net benefits of SRI policies. We find some evidence of a positive relation between SRI and total additions; however, the statistical significance is weak. The absence of a strong relation between SRI and total additions is consistent with an optimal contracting view of the industry: endowments adopt the set of constraints necessary to produce an optimal contract with their stakeholders. Universities that are more reliant on donations choose to constrain their endowment fund via SRI policies to attract donations from SRI-oriented donors; on the other hand, universities that are more reliant on endowment income focus more on investment performance and choose not to adopt costly constraints on their investment managers.

Our paper contributes to the literature showing that investors consider social responsibility and sustainability issues in their asset allocation decisions. For example, mutual fund investors allocate more capital to funds with higher sustainability rankings (Hartzmark and Sussman, 2018) and funds with SRI objectives (Bialkowski and Starks, 2016). Venture capital investors also accept lower returns from so-called “impact” funds dedicated to intentional generation of social or environmental impact alongside a financial return (Barber, Morse, and Yasuda, 2018).⁴ Our results show that, besides mutual fund and venture fund investors, university donors also value social objectives as indicated by greater donations allocated to universities that adopt SRI policies in their endowments.

Prior studies point to an interaction between the investment horizon and the adoption of SRI policies. Barber, Morse and Yasuda (2016) note that a long horizon social planner likely

⁴ Wealth considerations could still be more important than SRI considerations (see, e.g., Døskeland and Pedersen, 2016).

needs to address environmental and social problems, while Bénabou and Tirole (2010) argue that corporate social responsibility (CSR) helps firms focus on the long run and avoid myopic decision-making. Starks, Venkat and Zhu (2018) present evidence that a longer investment horizon makes SRI more desirable.⁵ Because of their infinite horizons, endowments present a great laboratory to test if societal resources flow to where various stakeholders want them to and if risks associated with various social, environmental or governance aspects of the investment process are taken into consideration when portfolios are formed.

Our paper also sheds light on the relation between the adoption of SRI policies and investment performance. Geczy, Stambaugh, and Levin (2005) argue that investing in SRI funds is associated with a significant certainty-equivalent penalty. Cornell (2015) and Bessembinder (2016) conclude that endowments' divestments from fossil fuels are associated with a return shortfall of 0.31 per year and long run divestment costs between 2-12% of an endowment's assets.⁶ Consistent with this evidence, we find that SRI policies impose a drag on endowment performance.

Finally, our results contribute to the literature on endowments. Earlier studies analyze the optimal investment and expenditure policies of endowments and recognize that endowments' investment policies can be used to smooth shocks to other sources of university revenues (e.g., Tobin, 1974; Black, 1976; Merton, 1992). More recently, Brown et al. (2014) find that endowments engage in "endowment hoarding" whereby they actively reduce payouts

⁵ Albuquerque, Durnev, and Koskinen (2016) present a model in which addressing CSR reduces firm risks in the long run. Other related studies include Baron (2008), who argues that CSR enhances employees' productivity, and Eccles, Ioannou, and Serafeim (2014), who present evidence that environmental, social and governance (ESG) practices are inversely related to litigation risk.

⁶ Also, Hong and Kacperczyk (2009) show that investing in "sin" stocks is profitable. For contrasting evidence see Kempf and Osthoff (2007), Statman and Glushkov (2009) and Edmans (2011), and Bansal, Wu and Yaron (2017).

following negative financial shocks. Dimmock (2012) shows that universities facing greater volatility of nonfinancial income (“background risk”) manage endowments with lower return volatility.⁷ We build on this literature by showing that endowments adopt SRI policies, in part, to generate other sources of university revenues in the form of charitable gifts from donors that value social responsibility.

The remainder of the paper is organized as follows. Section 2 discusses the key variables used in our study and provides summary statistics. Section 3 discusses our main analysis and results, including the determinants of SRI policy adoption by endowments, the potential benefits of SRI policies in the form of gifts and donations, and the potential costs of SRI policies as reflected by drags on investment performance. Section 4 concludes.

2. Data and summary statistics

The data used in our study comes from two main sources. The first is the National Association of College and University Business Officers (NACUBO). NACUBO has surveyed its member endowments and foundations from the United States, Canada and Puerto Rico starting since 1984 on a variety of topics related to investment management and to the characteristics of the universities these endowments serve. Although the data are self-reported, it does not suffer from survivorship bias (see Brown, Goetzmann, Ibbotson, and Ross, 1992) since it includes institutions that ceased participating in the survey. The data are additionally free of backfill bias, as we use the temporal snapshots released in the year in which they are collected and do not allow data re-writing. Because the NACUBO surveys were collected and

⁷ Brown, Garlappi, and Tiu (2010) finds evidence of security selection skill among endowment fund managers.

compiled by various organizations,⁸ to preserve continuity we focus on data collected starting with 2009. Earlier versions of the NACUBO surveys were used in the literature, for example, by Brown, Garlappi and Tiu (2010).

Our study uses information on the performance, asset allocation, SRI policies, assets under management, payouts, and costs incurred by university endowments, as well as certain characteristics of the universities these endowments serve, such as the number of students and Carnegie classifications. While endowment variables such as returns or asset allocation appear in prior studies, data on their SRI policies and costs are not extensively used by other authors. Therefore, we describe SRI-related variables in detail below. Finally, we supplement the information on university characteristics with the religious affiliation from universities' websites.

The second source of data comes from the Chronicle of Philanthropy's database of large charitable gifts (\$1 million or more) to universities. While the NACUBO data also contain information about aggregate donations, the Chronicle's data are more granular because the unit of observation is an individual gift and provides identifying information of the gift's donor as well as the donor's source of wealth. For example, this allows us to assess whether a large gift came from the oil industry or a wind energy generation, which is useful if we seek to understand the link between the motivation to bestow a gift upon a university and the investment policies of its endowment's portfolio.

⁸ NACUBO has partnered with TIAA-CREF (1988 to 1999), Cambridge Associates (2000–2008), the Commonfund (2004–2017: note that between 2004 and 2008 the main survey was compiled by Cambridge Associates but also by the Commonfund), TIAA (currently) and the NACUBO Investment Committee ran the survey prior to 1988.

2.1. SRI criteria

Starting with 2009, NACUBO introduced a new section titled “Social Investing Criteria” in their questionnaire. The information enables us to evaluate whether and how university endowments integrate socially responsible investing criteria into their investment practices. During our sample period, this section underwent two major modifications. First, in 2011, survey respondents began quantifying specific disaggregated percentages of investments that satisfied specific environmental, social, and governance criteria. In contrast, prior to 2011, endowments were only asked to provide aggregate figures. Second, in 2014, survey questions on percentages dedicated to SRI were replaced with qualitative queries about whether the endowment imposes SRI screens as part of its investment policies. In addition, questions on whether stakeholders interact with the endowment regarding SRI issues were also added in 2014.

Based on information from the Social Investing Criteria section, we create three different measures to proxy an endowment's standing concerning socially responsible investments. First, “SRI” is an indicator variable equal to one if the endowment does not respond with “No” to all questions about social responsibility in investments. Second, Strong SRI is an indicator variable equal to one if the endowment screens its entire portfolio for SRI investments, or, if investment policy mandates that the endowment portfolio be socially responsible.

2.2. Policy portfolios

University endowments invest in multiple asset classes and traditionally benchmark their performance against a policy portfolio. A policy portfolio consists of passive asset class indices weighted by these asset classes’ weights in the actual portfolio. We use the following

passive asset class indices in our construction of policy portfolios: the Russell 3000 as the benchmark for US equity, MSCI All Country World Index Ex-US for international equity, Barclays US Aggregate Bond Index for fixed income, Ncreif Property Index for real estate, Cambridge Associates US Venture Capital Index for venture capital, Cambridge Associates US Private Equity Index for private equity, Bloomberg commodity index for energy (& natural resources), HFRI Fund of Funds Composite Index for hedge funds, and one-month Treasury bill rate for cash. These are standard choices made by both the previous studies and practitioners.

3. Analysis and results

In this section we present our analysis and discuss our findings related to 1) the determinants of endowments' decision to adopt SRI policies, 2) the potential benefits of SRI policies represented by greater charitable donations to the university, 3) the potential costs of SRI policies in the form of a drag on investment performance, and 4) total additions (returns plus donations) as a measure of net benefits of SRI policies.

3.1. Determinants of social responsibility in investments

Why do endowments decide to include social responsibility – loosely used in the context to include CSR, ESG or impact investing – when they make investment decisions? This section explores the determinant of this decision.

We start with the premise that adopting SRI policies has the potential to be costly for the portfolio. The reason is that adopting SRI policies may pose restrictions to portfolio holdings, as certain investments with poor ESG/CSR records are excluded. This could lead

to diversification losses and greater management costs as documented for example by Cornell (2015) and Bessembinder (2018). SRI policies may also be ineffective regarding the social change they seek to accomplish as illustrated by Teoh, Welch and Wazzan (1999) analysis of South African divestment. Furthermore, if endowments adopt SRI policies to mitigate portfolio risk (see Jagannathan, Ravikumar and Sammon, 2017), in particular downside risk (see Hoepner et al., 2018), then this raises the question of why this risk was not already mitigated in an unconstrained portfolio setting, without an explicit policy of SRI.

Our analysis of SRI determinants addresses the following hypotheses:

H1. Endowments that generate a larger proportion of their institutions' budgets will be less likely to pursue SRI activities. Such endowments will avoid risking a lower contribution by pursuing costly SRI activities.

H2. Endowments of universities whose budgets are more donation-dependent are more likely to pursue SRI policies. We expect such endowments to be more responsive to requests from donors that seek greater SRI.

H3. SRI policies are more common among endowments facing greater social pressure, as measured by the number of interactions with university stakeholders who are pressuring for more SRIs.

H4. Endowments are more likely to pursue SRI policies among church-affiliated universities, as argued by Smith and Smith (2016).

H5. Endowments are more likely to pursue SRIs when their need to reduce portfolio volatility is greater, i.e., when their current portfolio volatility is higher. This is because implementing

SRI reduces portfolio risk (Jagannathan, Ravikumar and Sammon, 2017 and Hoepner et al., 2018).

We test these hypotheses using a logistic regression of SRI on several key variables, as well as a set of controls. The key variables are *Budget contribution* (to test H1); *Donation contribution* (to test H2); *Group of stakeholders* (to test H3; these are the number of various stakeholders with whom the endowment interacted on the subject of social responsibility.); *Religious affiliation* (to test H4); and policy portfolio *Volatility* (to test H5). The control variables are assets under management ($\log(AUM)$), *Allocation to U.S. Equity*, *Allocation to Alternatives*, *Spending rate*, number of employees (*FTE staff*), number of students ($\log(FTE\ students)$), *Total costs*, *Interest rate* charged when the endowment borrows, and past performance (*Annual returns net*). We also split the sample into two subsamples, the first of which covers the period pre-Paris Agreement, while the second is the period following this environmental treaty.

The results are presented in Table II and provide support for all our hypotheses. To start with, in support of H1, we find that budget contributions are inversely related to SRI. While the statistical significance of this result is smaller during the second half of our sample period (post-Paris Agreements), the relation holds for the latter as well as the entire sample. For example, based on the full sample coefficient of -0.642. We estimate that a one standard deviation increase in *Budget contribution* results in a 2.5% decrease in the probability that an endowment will pursue SRI policies.

Table II also provides some support of H2. Specifically, endowments of more donation-dependent universities are more likely to adopt SRI policies, especially during the latter half of our sample period. Perhaps, as discussed below, this relation is partly driven by explicit requests from donors that the university practice greater social responsibility.

University stakeholders are active and vocal when it comes to ESG/CSR issues. Faculty frequently write on the topic of ESG/CSR (like this study), and students seek to better the world. It makes sense that a higher degree of interaction on social responsibility issues between the endowment and the university stakeholders will result in a higher level of SRI engagement. We can test this hypothesis (H3) only in the second half of our sample when NACUBO began collecting responses from endowments on their interactions with university stakeholders. Table II shows that the coefficient on *Group of stakeholders* is positive and significant: a point estimate of 0.236 (p-value of 0.00). In economic terms, an endowment that interacts with one more distinct group of stakeholders (e.g., faculty, students, donors, community members) increases the probability of SRI policy adoption by 5.35% - an economically significant amount.

Table II also provides strong support for H4: endowments of universities with a religious affiliation increases the probability of SRI policies an economically amount, of 18.72%. Finally, consistent with H5, we observe that past return volatility is associated with a higher propensity for SRI. This relation is statistically significant in the full sample and earlier half of our sample period. For example, our full sample estimate shows that an increase in 10% volatility translates into a 16.65% increase in the probability of implementing SRI policies. However, this relationship is no longer significant in the latter sample period.

3.2. Do SRI policies attract charitable donations to the university?

A university's endowment could adopt SRI policies as a means of promoting an image of leadership on social issues, or as a branding strategy to attract students, faculty, and staff (Smith and Smith, 2016). We hypothesize that SRI policies could also help universities attract

charitable gifts from donors who are interested in promoting social responsibility. As an example, in 2013, North Carolina State University received a pledge for a \$50 million donation from a foundation established by Roy H. Park Sr., an alum. The donation came with the condition that the donated funds be invested in a “socially responsible” fashion.⁹ This example motivates our first test of whether SRI policies predict greater charitable donations.

We estimate regressions of the following general form:

$$Donations_{i,t+1} = \alpha + \beta \times SRI_{i,t} + Controls + \varepsilon_{i,t+1}$$

where *Donations* is the dollar amount of donations, scaled by total endowment assets, that the endowment receives from donors and reports to NACUBO. A finding that $\beta > 0$ would indicate that endowments adopting SRI policies are associated with greater subsequent donations received by the university. The results are reported in the second column of Table III. Consistent with our hypothesis, we find a significant positive relation between SRI and subsequent donations (*t*-statistic = 4.08).

The remaining columns of Table III present results using the Chronicle of Philanthropy’s database of large charitable gifts. In columns 3-5, the dependent variable is the natural logarithm of the number of donations received by the university, scaled by total endowment assets. The results in column 3 support our findings using the NACUBO data: SRI predicts a significantly higher number of gifts (i.e., $\beta > 0$).

To test our second prediction regarding donor type, we partition the dependent variable based on whether donors’ sources of wealth lie inside or outside the oil industry. We

⁹ “NC State Built a ‘Responsible’ Fund That’s Outperforming Its Main Portfolio,” Bloomberg Markets, June 4, 2018. Mr. Park generated a large portion of his wealth from the media and communications industry and his foundation, Park Foundation, itself adopts SRI policies.

expect the positive relation between SRI and charitable giving to be mainly driven by non-oil donors who are plausibly more interested in promoting social responsibility. This is exactly what we find: SRI is associated with significantly greater gifts from non-oil donors (t -statistic = 2.58), but not significant relation is found with gifts from oil donors (t -statistic = 1.25). The final three columns of Table III report similar findings using a measure of donations based on dollars (vs. number of donations) as the dependent variable.

Together, data from both NACUBO and Chronical of Philanthropy provide empirical support for our hypothesis that SRI policies attract charitable donations to the university, especially from donors that are more inclined towards social responsibility.

3.3. Socially responsible investments, and asset class exposures

Do endowments that profess greater social responsibility take real actions to reduce exposures to asset classes or types of investments known to be score low on the social responsibility scale, or are stated SRI policies just cheap talk?

To answer this question, we use an endowment's portfolio returns to estimate its exposures to broad asset classes, including two indices representative of industries viewed as the antithesis of social responsibility. The specific hypothesis is that SRI is associated with lower exposures to two indices, *Oil* and *Vice*. *Oil* represents returns of the oil industry (as reported in the Fama-French 48 industry portfolios), while *Vice* is the mutual fund representative of the tobacco, gambling, defense/aerospace and alcohol industries (with the ticker VICEX).

Each conditional exposure is calculated as $\beta_0 + \beta_1 \times SRI$, and Table 4 presents these coefficient estimations (these are the coefficients of the interaction terms). From Panel A of

the Table we observe that SRI is not strongly associated with changes in asset class exposures: none of the interaction terms in Panel A is statistically significant.

In order to calculate exposures to *Oil* and *Vice*, we run regressions of quarterly excess returns of endowments and the returns of *Oil* and *Vice*, while using conditional betas as outlined above. The results of these tests are presented in Panel B of Table IV. From the Panel B, we observe that the interaction terms with *Oil* and *Vice* with SRI are statistically significant and negative. This is true about the entire sample, as well as about each subsample separately.¹⁰

In terms of economic magnitude, in the entire sample, the oil beta of an SRI endowment is 0.020 lower than the corresponding beta for an endowment which does not implement SRI policies. The vice beta of an SRI endowment is 0.022 low than the vice beta of a non-SRI endowment. It therefore seems that while the decision to become SRI does not change asset allocation, it certainly changes – by amounts that economically significant – the betas of an endowment portfolio with respect to oil and vice. SRI, it appears, is not empty talk. Overall, the results support our hypothesis that SRI endowment undertake asset allocation decisions that are indeed consistent with the principles of social responsibility.

3.4. Do socially responsible endowments incur higher costs?

In this section, we investigate whether endowments which adopt SRI policies face higher costs of managing their portfolios. To test whether this is the case we regress costs incurred in the investment management process on an SRI indicator variable along with a set of controls. The results are presented in Table V.

¹⁰ With the caveat that our earliest half of the sample starts at 2012, which is the lowest time point with quarterly returns data available.

From Table V, we observe that SRI endowments faced higher costs: the coefficient of the SRI variable indicates that between 2009 and 2017 the cost differential between SRI and non-SRI endowments was 8.613 basis points (the t -statistic is 4.82). In particular, SRI endowments paid higher management fees (by 9.730 basis points, and a t -statistic of 9.50), and face higher staff costs (by 1.799, with a t -statistic of 2.44, which is quite large for an endowment, whose staff is usually lean).

These results are robust in the subsamples we study. An interesting observation is that the costs differential declined: it was 12.876 (t -statistic of 8.55) in the 2009 – 2013 period, but only 4.823 (t -statistic of 2.51 still indicating high statistical significance). This is consistent with SRIs becoming more mainstream in the more recent period. These results strongly support the idea the SRI endowments faced higher costs of managing their portfolios.

3.5. Social responsibility, investment performance and endowment growth

In this section, we will study the performance of endowments whose portfolios are socially responsible. There is a long line of financial economics literature linking ESG and performance – although corporate performance rather than financial returns. According to Friede, Busch and Bassen (2015), more than 2,000 articles were written on the subject, starting in the 1970s. Roughly 90% of the roughly 2,200 articles analyzed by Friede, Busch and Bassen (2015) find a nonnegative relationship between ESG and corporate financial performance, and the large majority of these studies find a positive relationship. Moreover, according to the study, the positive relationship between ESG and corporate performance is stable over time. Extrapolating this relationship to university endowments we expect that those endowments which adopted SRI policies outperform. To further strengthen this assertion, endowments are

also investors in venture capital, and impact ventures, a form of SRIs, are documented outperform by Barber, Morse and Yasuda (2016).

Additional support of the assertion that SRI endowment outperform comes from analyzing some anecdotal evidence regarding how some university endowments became more socially responsible. In some cases, high profile student or faculty activism pushed for a transition to more SRIs. Resisting activism makes endowment investment committees unpopular with students and faculty, creates needless headlines risk, and has the potential to detract from the duties of managing the portfolio. When endowments switch to being more socially responsible, this pressure is lifted and the endowment may refocus on managing its portfolio, which ought to result in outperformance, at least relative to other endowments still under pressure.

Finally, Hoepner et al. (2018) argue that investments with higher ESG scores have lower downside risk, which further implies that more socially responsible endowments are likely to outperform.

On the other hand, imposing social responsibility may increase portfolio concentration and thus risk, limiting the investment opportunity set. As such, endowments with more socially responsible portfolios are expected to underperform. Since they will also avoid investing in “sin” stocks, which outperform, according to Hong and Kacperczyk (2009), these more socially responsible endowments, in turn, should underperform. Finally, all other things equal, as we documented that SRIs experience higher costs, we then expect SRIs to underperform.

To test the differences in performance between endowments with more socially responsible and less socially responsible investments, we run a panel regression of endowment performance on an SRI indicator variable and a set of controls. For performance, we use the

following measures. First, we consider the annual returns net of fees for the entire endowments. Second, we consider the annual returns gross of fees (calculated by adding total costs to the net returns that endowments report). Third, we use the level of risk taken by the endowment in its asset allocation, calculated as the volatility of the policy portfolio. This calculation is done using current portfolio weights and the long-term covariance matrix for asset class returns. Fourth, we consider alphas net of fees: they are calculated as the difference between actual net-of-fees endowment returns and the returns of the policy portfolio. Fifth, we consider gross-of-fees alphas, calculated as alphas net of fees, plus endowment management costs. Sixth, we consider the volatility of alpha (i.e., volatility of the residuals in the four quarters of the year in which we calculate the alpha). Finally, we consider Sharpe ratios (calculated using past quarterly returns, or as current return divided by policy portfolio volatility).

As controls, we use the following variables. First, since resistance to SRIs may detract investment committees interest from managing the portfolio, we include an indicator variable that is equal to one if the endowment interacted with stakeholders of the university in relation to SRIs, but decided not to implement any such policies. We also include assets under management, past net returns, allocations to U.S. Equity and alternatives, spending rates, budget contributions, size of staff, number of students of the university, and religious affiliations. Since research institutions, depending on the type of research they perform, may have stronger views on social responsibility, we include Carnegie classification fixed effects. Because there are differences between states in terms of attitude toward social responsibility we include state fixed effects, and as cross-sections of endowments are different from a year to another, include time fixed effects.

The results of this panel regression are presented in Panel A of Table VI. From the panel, it appears that although SRI endowments take more risk (they have statistically significantly higher volatilities as well as alpha volatilities), they in fact outperform, at least on a gross-of-fees basis: SRI endowments generate 16.681 basis points more per year than the endowments not applying any SRI considerations (t-statistic is 1.90). Alphas gross of fees are also 15.597 higher for the SRI endowments (t-statistic of 1.67). Returns and alphas net-of-fees differences are about half of their gross-of-fees counterparts and with diminished statistical significance, as well as Sharpe ratios.

It is worth observing that although we hypothesized that resisting the SRI lobby negatively affects returns, in our sample this relationship holds on average only for alphas net of fees, while it is positive for all the other measures of performance. The only statistically significant difference between endowments resisting to SRI and those not resisting is observed for total portfolio volatility: endowments resisting SRI have 16.317 basis points more volatility than those not resisting. It therefore appears that our evidence on social responsibility leans the way outlined in the meta-analysis of Friede, Busch and Bassen (2015).

However, one notable phenomenon in our sample is the decline of oil prices, as well as of the vice portfolio, following (but not caused by) the Paris Agreements. We also documented previously that the SRI endowments decreased their exposures to both oil and vice. In concordance, these two facts have the effect of a rise in performance for the SRI endowments, but this rise in performance was solely due to the luck of getting out of oil as its price was declining. In assessing performance, we should therefore control for an endowment's exposure to oil (and vice).

To control for oil and vice exposures of the endowments which became more socially responsible, we allowed endowment to have oil and vice exposures that could change as the endowment becomes more socially responsible. More precisely, we model endowment returns as

$$R_t - r_{ft} = \alpha + (\beta_0^{oil} + \beta_1^{oil} \times SRI_{t-1})(R_t^{oil} - r_{ft}) + (\beta_0^{vice} + \beta_1^{vice} \times SRI_{t-1})(R_t^{vice} - r_{ft}) + \varepsilon_t,$$

where R_t is the return of the endowment at time t and R_t^{oil} , and respectively R_t^{vice} represent the returns of the Fama and French Oil industry index and of an index of vice (the mutual fund with the ticker VICEX). We then calculate the returns of an endowment net of oil exposure as

$$R_t^{adjusted} = R_t - (\beta_0^{oil} + \beta_1^{oil} \times SRI_{t-1})(R_t^{oil} - r_{ft}) - (\beta_0^{vice} + \beta_1^{vice} \times SRI_{t-1})(R_t^{vice} - r_{ft}).$$

We then repeat the analysis presented in Panel A of Table VI and report these oil and vice-adjusted returns in Panel B of Table VI. From the panel we observe that indeed, SRI endowments seemed to have benefited from decreasing oil and vice exposures at a time when the prices of oil and vice-related securities were declining. Specifically, after adjusting for oil and vice exposures, Panel B of Table VI shows that endowments which became more socially responsible underperformed: their gross and adjusted net returns, as well as their gross and net adjusted alphas are lower than those of endowments with less socially responsible portfolios. The differences are also economically significant at 84.927 basis points in terms of adjusted net returns and 81.593 basis points in terms of net alphas.

Panel C of Table VI replicates the same analysis on subsamples. We observe that as in our previous panels, SRI endowments outperform before adjusting for oil, and underperform afterward. We also observe the differential in performance for SRI when the two subperiods are compared: net-of-fees, SRI endowments slightly underperform in the first part of the sample. However, they outperformed in the second half. This is supporting even stronger our hypothesis that SRI endowments outperformed as the oil prices declined – the decline in our sample is happening in the later half of the sample.

The subperiod analysis reveals differences in the types of the SRI endowments in the first and second subsamples. We note that after adjusting for oil exposures, the performance of SRI endowments is lower in the first subsample. This is surprising – between 2009 and 2013 oil prices increased. To reconcile these two pieces of evidence, it must be that those endowments which became socially responsible in 2009 – 2013 had higher oil exposures than those which did not. By contrast, after we correct for oil prices in the 2014 – 2017 sample, SRI endowments only slightly (and statistically insignificantly) underperform the endowments that did not adopt SRI policies. This can happen if the endowments which switch to SRI between 2014 and 2017 did not have significantly different initial oil exposures than those endowments which did not switch.

So far, we documented that endowments which adopt SRI policies attract more donations than those which did not implement such policies. We also documented that these endowments outperformed, while, after adjusting for their exposure to the oil industry and to vice, underperform, and that adopting SRI policies also is costly. It therefore appears that adopting SRI policies results in a mix of benefits (donations, outperformance) as well as shortcomings (higher costs, underperformance relative to oil and vice). The purpose of this

section is to analyze the sum of these benefits and shortcomings to answer to the question: did SRI policies result in endowment growth?

Simply adding coefficients for endowment returns and donations does not suffice to estimate this net result, because SRI policies affected individual endowments differently. To estimate the impact of SRI on total portfolio additions, we run similar tests as those reported in Table VI, but instead of using endowment investment performance as a dependent variable, we use total additions to the portfolio. We note that adjusting portfolio additions for oil and vice exposures removes these exposures not only from endowment returns but also from donations. In particular, such exposures will account for the response of donations to changes in the prices of Oil and Vice. The results are presented in Table VII.

From Table VII, we observe that in terms of portfolio additions, endowments which adopted SRI portfolio experienced an average growth of 31.744 basis points in the entire sample (and this difference is statistically significant). However, this result is sharply reversed after we control for Oil and Vice exposed: once we adjust for these exposures, SRI endowments experience a decline in size by 24.480 basis points (although, in this case, the difference is not statistically significant).

From the subsample analysis, we observe that the results are robust: portfolio additions are higher for SRI endowments but lower once we adjust for oil and vice exposures. We also observe that total additions changes in response to the adoption of SRI policies are more substantial in the second half of the sample when the concept of SRI became more mainstream. For example, total portfolio addition difference between SRI and non-SRI endowments is only 2.547 basis points during the first subsample but increases to 63.189 basis points when measures in the second subsample. We therefore conclude that adopting SRI

policies benefited university endowments, but the benefits are because the switch to SRI was made as oil prices declined; additionally, early SRI adopters appeared to have large Oil and Vice holdings, which were diminished only partially by the shift to social responsibility.

4. Concluding remarks

We find a growing and persistent trend of SRI policy adoption among university endowment funds over 2009-2017. In the cross-section, policy adoption is significantly more common among endowments that face greater pressure from university stakeholders to incorporate socially responsible investment practices and that operate within universities that rely more on non-endowment sources of revenues to fund university operations. In turn, SRI policies are associated with significantly higher charitable donations to the university, especially from donors that derive their wealth outside “vice” industries and, therefore, donors that plausibly derive higher utility from socially responsible and sustainable investment. However, we find some evidence that SRI policies negatively impact endowment fund performance due to greater divestment costs and inefficient diversification. On balance, we find only weak evidence that SRI policies lead to greater total additions (net returns + donations) of endowments.

Our evidence supports the notion that an endowment adopts the set of policy restrictions necessary to produce an optimal investment contract between a university and its stakeholders. Universities that face greater pressure to adopt SRI policies can realize substantial benefits (in the form of donations) from doing so. Such donations act as a compensation differential for deterioration in investment performance that results from a constrained investment opportunity set. In contrast, universities that do not have as strong

of a social mission and rely more on endowment income face a smaller reward and greater cost from adopting SRI policies.

References

- Albuquerque, Rui, Yrjö Koskinen, and Chendi Zhang, 2018, Corporate social responsibility and firm risk: Theory and empirical evidence, *Management Science*.
- Bansal, Ravi, Di Andrew Wu, and Amir Yaron, 2018, Is socially responsible investing a luxury good?, *working paper* Available at SSRN: <https://ssrn.com/abstract=3259209>.
- Barber, Brad M., Adair Morse, and Ayako Yasuda, 2018, Impact investing, *working paper* Available at SSRN: <https://ssrn.com/abstract=2705556>.
- Baron, David P., 2008, Managerial contracting and corporate social responsibility, *Journal of Public Economics* 92, 268-288.
- Bénabou, Roland, and Jean Tirole, 2010, Individual and corporate social responsibility, *Economica* 77, 1-19.
- Bessembinder, Hendrik, 2016, Frictional costs of fossil fuel divestment, *working paper* Available at SSRN: <https://ssrn.com/abstract=2789878>.
- Bialkowski, Jędrzej, and Laura T. Starks, 2016, Sri funds: Investor demand, exogenous shocks and esg profiles, *working paper* UC Research Repository.
- Black, Fischer, 1976, The investment policy spectrum: individuals, endowment funds and pension funds, *Financial Analysts Journal* 32, 23-31.
- Brown, Jeffrey R., Stephen G. Dimmock, Jun-Koo Kang, and Scott J. Weisbenner, 2014, How university endowments respond to financial market shocks: Evidence and implications, *American Economic Review* 104, 931-62.
- Brown, Keith C., Lorenzo Garlappi, and Cristian I. Tiu, 2010, Asset allocation and portfolio performance: Evidence from university endowment funds, *Journal of Financial Markets* 13, 268-294.
- Brown, Stephen J., William Goetzmann, Roger G. Ibbotson, and Stephen A. Ross, 1992, Survivorship bias in performance studies, *The Review of Financial Studies* 5, 553-580.
- Cornell, B., 2015, The Divestment Penalty: Estimating the Costs of Fossil Fuel Divestment to Select University Endowments, *working paper* Available at SSRN: <https://ssrn.com/abstract=2655603>.
- Dimmock, Stephen G., 2012, Background risk and university endowment funds. *Review of economics and statistics* 94, 789-799.
- Døskeland, Trond, and Lars J. T. Pedersen, 2015, Investing with brain or heart? A field experiment on responsible investment. *Management Science* 62, 1632-1644.
- Eccles, Robert G., Ioannis Ioannou, and George Serafeim, 2014, The impact of corporate sustainability on organizational processes and performance, *Management Science* 60, 2835-2857.

- Edmans, Alex, 2011, Does the stock market fully value intangibles? Employee satisfaction and equity prices, *Journal of Financial Economics* 101, 621-640.
- Geczy, Christopher, Robert F. Stambaugh, and David Levin, 2005, Investing in socially responsible mutual funds, *working paper* Available at SSRN: <https://ssrn.com/abstract=416380>.
- Hartzmark, Samuel M., and Abigail B. Sussman, 2018, Do investors value sustainability? A natural experiment examining ranking and fund flows, *working paper* Available at SSRN: <https://ssrn.com/abstract=3016092>.
- Hoepner, Andreas G., Ioannis Oikonomou, Zacharias Sautner, Laura T. Starks, and Xiaoyan Zhou, 2018, ESG shareholder engagement and downside risk, *working paper* Available at SSRN: <https://ssrn.com/abstract=2874252>.
- Hong, Harrison, and Marcin Kacperczyk, 2009, The price of sin: The effects of social norms on markets, *Journal of Financial Economics* 93, 15-36.
- Jagannathan, Ravi, Ashwin Ravikumar, and Marco Sammon, 2017, Environmental, Social, and Governance Criteria: Why Investors are Paying Attention, NBER working paper No. w24063.
- Kempf, Alexander, and Peer Osthoff, 2007, The effect of socially responsible investing on portfolio performance, *European Financial Management* 13, 908-922.
- Merton, Robert C., 1993, Optimal investment strategies for university endowment funds, *Studies of supply and demand in higher education*, University of Chicago Press, 211-242.
- Smith, Janet Kiholm, and Richard L. Smith, 2016, Socially responsible investing by universities and colleges. *Financial Management* 45, 877-922.
- Statman, Meir, and Denys Glushkov, 2009, The wages of social responsibility, *Financial Analysts Journal* 65, 33-46.
- Starks, Laura T., Parth Venkat, and Qifei Zhu, 2018, Corporate ESG profiles and investor horizons, *working paper* Available at SSRN: <https://ssrn.com/abstract=3049943>.
- Teoh, Siew Hong, Ivo Welch, and C. Paul Wazzan, 1999, The effect of socially activist investment policies on the financial markets: Evidence from the South African boycott, *The Journal of Business* 72, 35-89.
- Tobin, James, 1974, What is permanent endowment income?, *American Economic Review* 64, 427-432.

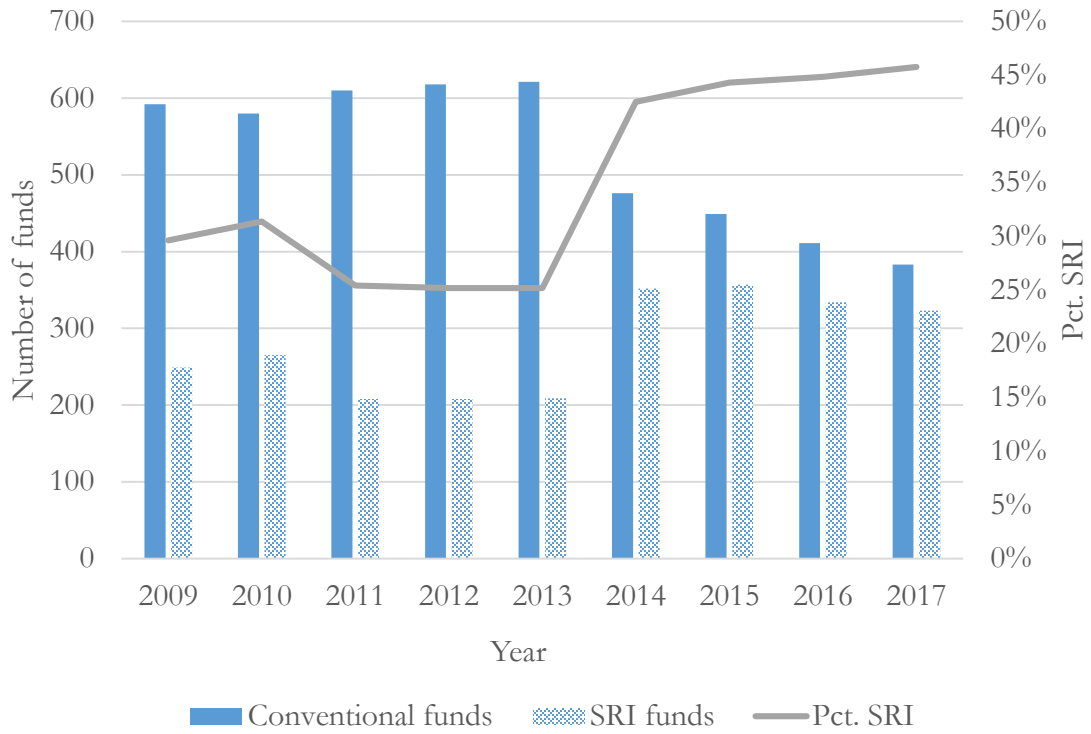


Fig. 1. Number of SRI Funds

Table I: Summary Statistics

The Table presents summary statistics. Panel A shows summary statistics of endowment fund characteristics. Panel B compares endowment fund characteristics between different SRI classifications. "SRI" is an indicator variable equal to one if the endowment does not respond with "No" to all the questions pertaining to social responsibility in investments. "Total assets" is the total endowment assets. "Donations" is the total gifts and bequests from donors. "Total additions" is the sum of appreciation, investment income, donations, and other additions. "Annual return net" is the annual return of the endowment after fees. "Annual return gross" represents the annual return of endowment before fees. "Volatility" is the annualized volatility of the endowment. "Alpha" represents the difference between the endowment's annual return after fees and its policy portfolio return. "Sharpe ratio" is the Sharpe ratio of endowment portfolio. "Annual return on U.S. Equity/Fixed Income/International Equity/Alternatives/Real Estate/Venture Capital/Hedge Funds/Energy/Private Equity" is the annual return after fees of investments in U.S. Equity/Fixed Income/International Equity/Alternatives/Real Estate/Venture Capital/Hedge Funds/Energy/Private Equity. "Allocation to U.S. Equity/Fixed Income/International Equity/Alternatives/Real Estate/Venture Capital/Hedge Funds/Energy/Private Equity" is the percentage of the portfolio invested in U.S. Equity/Fixed Income/International Equity/Alternatives/Real Estate/Venture Capital/Hedge Funds/Energy/Private Equity. "Spending rate" is the amount of endowment spending divided by the overall endowment value. "Budget contribution" is the fraction of the university budget represented by the endowment payout. "Donation contribution" is the contribution to the university budget represented by direct gifts to the university. "FTE staff" is the number of full-time employees of the endowment. "FTE students" is the full-time equivalent of number of students enrolled (1 part-time student = 1/3 full-time student). "Religious affiliation" is an indicator variable equal to one if the university is or was affiliated with some religious group. "Total costs" represents the total costs of managing the endowment. "Management fees", "Incentive fees", "Consultant fees", "Direct expenses", "Staff salary", and "Other fees" represent different types of expenses and fees included in "Total costs". "Total debt" is the total amount of the university's debt. "Debt to budget" is the debt as a percentage of operating budget. "Debt to total assets" is the debt as a percentage of endowment assets. "Interest rate" is the average interest rate of debt. The sample period spans the time interval from 2009 to 2017.

Panel A. Summary statistics

| Variable | Obs. | Mean | Standard Deviation | Minimum | 25th Percentile | Median | 75th Percentile | Maximum |
|--|-------|--------|--------------------|----------|-----------------|--------|-----------------|----------|
| SRI | 7,244 | 0.35 | 0.48 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Total assets (\$ mil.) | 7,237 | 551.61 | 2105.50 | 0.43 | 39.92 | 96.99 | 314.96 | 36448.82 |
| Donations (\$ mil.) | 7,157 | 8.56 | 23.59 | 0.00 | 0.53 | 2.01 | 6.04 | 387.25 |
| Total additions (\$ mil.) | 6,595 | 32.22 | 180.33 | -5600.00 | 1.14 | 6.52 | 23.24 | 3272.13 |
| Annual return net (pct.) | 6,922 | 5.76 | 11.55 | -38.00 | -0.84 | 9.60 | 14.03 | 31.75 |
| Annual return gross (pct.) | 5,964 | 6.42 | 11.51 | -37.64 | -0.22 | 10.14 | 14.77 | 32.00 |
| Volatility (pct.) | 6,528 | 9.32 | 1.80 | 0.01 | 8.56 | 9.51 | 10.34 | 20.13 |
| Alpha (pct.) | 5,789 | 1.44 | 2.48 | -14.45 | 0.01 | 1.47 | 2.92 | 10.40 |
| Sharpe ratio | 5,786 | 0.14 | 0.28 | -2.17 | -0.01 | 0.14 | 0.30 | 3.59 |
| Annual return on U.S. Equity (pct.) | 4,655 | 9.32 | 17.01 | -72.80 | 1.40 | 13.40 | 21.68 | 62.37 |
| Annual return on Fixed Income (pct.) | 4,653 | 4.69 | 5.25 | -29.10 | 1.40 | 4.30 | 7.00 | 68.80 |
| Annual return on International Equity (pct.) | 4,309 | 4.27 | 18.47 | -81.50 | -9.39 | 8.57 | 19.12 | 67.92 |
| Annual return on Alternatives (pct.) | 2,932 | 2.96 | 12.91 | -94.75 | -2.20 | 4.80 | 10.70 | 84.86 |
| Annual return on Real Estate (pct.) | 2,141 | 1.30 | 21.65 | -100.00 | -1.80 | 6.30 | 12.30 | 100.00 |
| Annual return on Venture Capital (pct.) | 1,326 | 8.28 | 17.11 | -55.00 | 0.20 | 6.83 | 16.20 | 230.80 |
| Annual return on Hedge Funds (pct.) | 3,104 | 3.74 | 9.59 | -72.00 | -1.40 | 5.70 | 10.00 | 100.00 |
| Annual return on Energy (pct.) | 1,843 | 2.72 | 18.47 | -57.10 | -8.60 | 2.70 | 13.15 | 100.00 |
| Annual return on Private Equity (pct.) | 2,102 | 8.16 | 12.92 | -40.60 | 3.26 | 9.77 | 15.93 | 80.40 |
| Allocation to U.S. Equity (pct.) | 7,195 | 32.05 | 15.85 | 0.00 | 20.80 | 29.20 | 42.60 | 100.00 |
| Allocation to Fixed Income (pct.) | 7,153 | 18.37 | 10.71 | 0.00 | 10.70 | 17.00 | 24.67 | 89.00 |

| | | | | | | | | |
|---|-------|----------|----------|-------|---------|---------|----------|-----------|
| Allocation to International Equity (pct.) | 6,957 | 17.68 | 8.25 | 0.00 | 12.90 | 18.08 | 22.80 | 72.33 |
| Allocation to Alternatives (pct.) | 6,858 | 28.41 | 19.59 | 0.00 | 12.70 | 26.64 | 41.65 | 100.00 |
| Allocation to Real Estate (pct.) | 3,941 | 4.48 | 4.41 | 0.00 | 1.69 | 3.41 | 6.00 | 46.00 |
| Allocation to Venture Capital (pct.) | 2,609 | 3.94 | 3.88 | 0.00 | 1.20 | 2.90 | 5.55 | 36.17 |
| Allocation to Hedge Funds (pct.) | 5,195 | 17.55 | 10.54 | 0.00 | 10.00 | 16.70 | 23.30 | 92.50 |
| Allocation to Energy (pct.) | 3,369 | 4.99 | 4.29 | 0.00 | 2.10 | 4.16 | 7.00 | 59.83 |
| Allocation to Private Equity (pct.) | 4,305 | 8.41 | 7.18 | 0.00 | 3.42 | 6.70 | 11.70 | 96.22 |
| Spending rate (pct.) | 7,047 | 4.38 | 2.02 | 0.00 | 3.70 | 4.48 | 5.00 | 85.00 |
| Budget contribution (pct.) | 6,316 | 9.94 | 16.90 | 0.00 | 1.00 | 3.60 | 10.66 | 100.00 |
| Donation contribution (pct.) | 5,854 | 4.50 | 9.45 | 0.00 | 0.79 | 2.25 | 4.50 | 100.00 |
| FTE staff | 6,975 | 1.68 | 4.69 | 0.00 | 0.20 | 0.50 | 1.25 | 174.00 |
| FTE students | 6,717 | 10338.62 | 18397.20 | 13.99 | 1838.00 | 3783.00 | 11867.00 | 270112.00 |
| Religious affiliation | 7,244 | 0.47 | 0.50 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Total costs (basis pts.) | 6,199 | 65.91 | 50.93 | 0.00 | 30.34 | 52.35 | 88.47 | 423.51 |
| Management fees (basis pts.) | 5,413 | 41.16 | 38.20 | 0.00 | 11.17 | 33.54 | 63.21 | 423.51 |
| Incentive fees (basis pts.) | 5,388 | 3.93 | 16.40 | 0.00 | 0.00 | 0.00 | 0.00 | 211.99 |
| Consultant fees (basis pts.) | 5,417 | 8.47 | 12.14 | 0.00 | 0.00 | 5.00 | 11.89 | 129.60 |
| Direct expenses (basis pts.) | 5,400 | 5.72 | 14.87 | 0.00 | 0.00 | 0.20 | 4.01 | 181.03 |
| Staff salary (basis pts.) | 5,472 | 5.01 | 18.67 | 0.00 | 0.00 | 0.00 | 0.00 | 176.99 |
| Other fees (basis pts.) | 5,391 | 2.05 | 14.00 | 0.00 | 0.00 | 0.00 | 0.00 | 208.33 |
| Total debt (\$ mil.) | 6,466 | 182.90 | 663.47 | 0.00 | 8.06 | 40.66 | 116.41 | 16805.45 |
| Debt to budget (pct.) | 5,040 | 5.40 | 6.58 | 0.00 | 2.93 | 4.29 | 6.00 | 101.17 |

| | | | | | | | | |
|-----------------------------|-------|-------|--------|------|-------|-------|-------|----------|
| Debt to total assets (pct.) | 6,460 | 85.27 | 332.05 | 0.00 | 10.45 | 37.28 | 82.63 | 11807.38 |
| Interest rate (pct.) | 4,692 | 3.86 | 1.20 | 0.00 | 3.25 | 4.00 | 4.66 | 18.27 |

Table I-Continued

| Panel B. Difference | | |
|--|-------------|---------|
| Variable | SRI- No SRI | T-value |
| Total assets (\$ mil.) | 132.900 | (2.67) |
| Donations (\$ mil.) | 3.213 | (4.99) |
| Total additions (\$ mil.) | 25.608 | (4.75) |
| Annual return net (pct.) | 0.181 | (0.63) |
| Annual return gross (pct.) | 0.156 | (0.51) |
| Volatility (pct.) | 0.203 | (4.44) |
| Alpha (pct.) | -0.067 | (-0.97) |
| Sharpe ratio | -0.011 | (-1.37) |
| Annual return on U.S. Equity (pct.) | -0.049 | (-0.10) |
| Annual return on Fixed Income (pct.) | -0.424 | (-2.72) |
| Annual return on International Equity (pct.) | 0.487 | (0.85) |
| Annual return on Alternatives (pct.) | -0.007 | (-0.01) |
| Annual return on Real Estate (pct.) | 3.696 | (3.98) |
| Annual return on Venture Capital (pct.) | 2.912 | (2.93) |
| Annual return on Hedge Funds (pct.) | 0.245 | (0.70) |
| Annual return on Energy (pct.) | 0.378 | (0.43) |
| Annual return on Private Equity (pct.) | 1.256 | (2.20) |
| Allocation to U.S. Equity (pct.) | -1.201 | (-3.12) |
| Allocation to Fixed Income (pct.) | -1.246 | (-4.64) |
| Allocation to International Equity (pct.) | 0.720 | (3.52) |
| Allocation to Alternatives (pct.) | 1.035 | (2.07) |
| Allocation to Real Estate (pct.) | 1.003 | (6.30) |
| Allocation to Venture Capital (pct.) | 0.487 | (3.10) |
| Allocation to Hedge Funds (pct.) | -0.286 | (-0.96) |
| Allocation to Energy (pct.) | 0.658 | (3.79) |
| Allocation to Private Equity (pct.) | 0.608 | (2.70) |
| Spending rate (pct.) | 0.027 | (0.58) |
| Budget contribution (pct.) | -0.603 | (-1.41) |
| Donation contribution (pct.) | 0.018 | (0.07) |
| FTE staff | 0.757 | (5.68) |
| FTE students | 42.914 | (0.08) |

| | | |
|------------------------------|---------|---------|
| Religious affiliation | 0.176 | (14.49) |
| Total costs (basis pts.) | 4.219 | (3.17) |
| Management fees (basis pts.) | 4.971 | (4.59) |
| Incentive fees (basis pts.) | 0.037 | (0.08) |
| Consultant fees (basis pts.) | -0.915 | (-2.76) |
| Direct expenses (basis pts.) | -0.990 | (-2.46) |
| Staff salary (basis pts.) | 1.818 | (3.41) |
| Other fees (basis pts.) | -0.525 | (-1.41) |
| Total debt (\$ mil.) | 108.900 | (5.21) |
| Debt to budget (pct.) | -0.156 | (-0.84) |
| Debt to total assets (pct.) | -14.606 | (-2.16) |
| Interest rate (pct.) | 0.090 | (2.47) |

Table II: Determinants of SRI

The Table presents the results of logistic regressions of the indicator variable "SRI" indicating an endowment's standing with respect to socially responsible investments on characteristics of the endowment and the university. "Group of stakeholders" represents the number of different groups of stakeholders that make requests on SRI considerations. The rest of the variables are defined in Table I. Carnegie classification, year fixed effects and state fixed effects are included. The regression covers the period from 2009 to 2017, and two sub-periods that are 2009-2013 and 2014-2017. The p-values are reported in parentheses.

| Sample period | 2009-2017 | 2009-2013 | 2014-2017 | |
|----------------------------|------------------|------------------|------------------|------------------|
| Group of stakeholders | | | | 0.236 (0.00) |
| log (Total assets) | 0.176 (0.00) | 0.227 (0.05) | 0.204 (0.00) | 0.175 (0.00) |
| Volatility | 7.321 (0.01) | 8.483 (0.00) | 2.730 (0.55) | 1.927 (0.61) |
| Allocation to U.S. Equity | -0.715 (0.04) | -1.131 (0.00) | -0.009 (0.99) | -0.456 (0.38) |
| Allocation to Alternatives | 0.136 (0.71) | 0.029 (0.97) | 0.683 (0.32) | 0.878 (0.22) |
| Spending rate | 4.890 (0.15) | 4.670 (0.42) | 6.056 (0.05) | 6.645 (0.05) |
| Budget contribution | -0.642 (0.05) | -0.523 (0.50) | -1.071 (0.04) | -1.101 (0.05) |
| Donation contribution | 0.024 (0.15) | -0.016 (0.60) | 0.039 (0.03) | 0.037 (0.05) |
| FTE staff | 0.029 (0.21) | 0.083 (0.00) | -0.023 (0.20) | -0.027 (0.14) |
| log (FTE students) | -0.252 (0.00) | -0.372 (0.01) | -0.185 (0.21) | -0.199 (0.17) |
| Total costs | 0.004 (0.00) | 0.005 (0.00) | 0.004 (0.06) | 0.003 (0.07) |
| Interest rate | 0.154 (0.01) | 0.198 (0.07) | 0.084 (0.41) | 0.081 (0.39) |
| Religious affiliation | 0.823 (0.00) | 0.795 (0.00) | 0.947 (0.00) | 0.929 (0.00) |
| Annual returns net | -1.475 | -4.787 | 1.337 | 0.979 |

| | | | | |
|-------------------------|--------|--------|--------|--------|
| | (0.31) | (0.00) | (0.73) | (0.78) |
| Intercept | -6.285 | -9.246 | -6.298 | -5.660 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Carnegie classification | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes |
| Pseudo R-squared | 11.65% | 15.59% | 12.33% | 15.39% |
| Obs. | 2,607 | 1,214 | 1,030 | 1,030 |

Table III: SRI and Donations

The Table presents regression results of donations received by the endowment and its affiliated university on the indicator variable "SRI" indicating an endowment's standing with respect to socially responsible investments and other characteristics of the endowment and the university. Panel A presents regression results that cover the sample period from 2009 to 2017. Panel B presents regression results based on the two sub-periods that are 2009-2013 and 2014-2017. "Donations" under the column labeled NACUBO, is the amount of donations, scaled by total endowment assets, that the endowment receives from donors and reports to NACUBO. "Total number of donations" under the column labeled The Chronicle of Philanthropy, is the number of donations with a minimum size of one million made to the university according to the data from The Chronicle of Philanthropy. "Number of donations from oil" ("Number of donations from other sources") is the number of donations with a minimum size of one million made to the university from donors whose sources of wealth include one of the following categories (exclude the following categories): Chemicals; Energy; Mineral exploration; Oil. "Donations" under the column labeled The Chronicle of Philanthropy, is the natural logarithm of donations with a minimum size of one million, scaled by total endowment assets, that the university receives from donors according to the data from The Chronicle of Philanthropy. Donations from oil (Donations from other sources) is the natural logarithm of donations with a minimum size of one million, scaled by total endowment assets, that the university receives from donors whose sources of wealth include one of the following categories (exclude the following categories): Chemicals; Energy; Mineral exploration; Oil. "Resist" is an indicator variable equal to one if the endowment experiences requests from stakeholders on SRI considerations but responds with "No" to all the questions pertaining to social responsibility in investments. The rest of the variables are defined in Table I. Carnegie classification, year fixed effects and state fixed effects are included. The t-statistics are reported in parentheses.

Panel A. Donations, 2009-2017

| | NACUBO | | The Chronicle of Philanthropy | | | | |
|----------------------------|--------------------|---------------------------|-------------------------------|--|-------------------|--------------------|------------------------------|
| | Donations | Total number of donations | Number of donations from oil | Number of donations from other sources | Donations | Donations from oil | Donations from other sources |
| SRI | 20.781 (4.08) | 0.106 (2.34) | 0.007 (1.25) | 0.081 (2.58) | 0.333 (2.20) | 0.058 (1.10) | 0.274 (1.85) |
| Resist | 53.842 (1.59) | 0.304 (2.83) | 0.024 (4.34) | 0.258 (2.91) | 0.941 (8.27) | 0.163 (4.85) | 0.960 (6.75) |
| log (Total assets) | -86.486 (-9.99) | 0.169 (7.77) | 0.008 (2.91) | 0.123 (7.74) | 0.624 (7.02) | 0.076 (4.07) | 0.539 (6.22) |
| Annual returns net | -0.003 (-0.17) | 0.064 (0.10) | 0.023 (0.43) | 0.173 (0.36) | 0.457 (0.20) | 0.054 (0.09) | 0.072 (0.03) |
| Volatility | 0.007 (0.13) | 1.103 (1.47) | 0.055 (0.32) | 0.905 (1.65) | 0.074 (0.01) | 0.708 (0.48) | 1.599 (0.30) |
| Allocation to U.S. Equity | 0.001 (0.19) | 0.114 (1.19) | 0.012 (1.09) | 0.127 (1.43) | 1.123 (2.14) | 0.046 (0.37) | 0.992 (1.39) |
| Allocation to Alternatives | 0.003 (0.45) | 0.346 (3.37) | 0.014 (0.74) | 0.294 (4.53) | 1.972 (3.52) | 0.063 (0.38) | 1.654 (3.84) |
| Spending rate | 0.229 (5.18) | 1.152 (2.11) | 0.024 (0.15) | 0.899 (1.75) | 4.224 (0.83) | -0.024 (-0.01) | 3.714 (1.06) |
| Budget contribution | 0.004 (0.88) | -0.372 (-2.95) | -0.032 (-1.96) | -0.210 (-2.24) | -1.230 (-1.81) | -0.258 (-1.73) | -0.615 (-1.02) |
| Donation contribution | 0.031 | 0.386 | 0.055 | 0.315 | 2.269 | 0.532 | 1.699 |

| | | | | | | | |
|-------------------------|---------|---------|---------|---------|----------|----------|----------|
| | (3.31) | (2.19) | (2.29) | (3.16) | (1.53) | (1.79) | (1.69) |
| FTE staff | 1.973 | 0.020 | 0.000 | 0.020 | 0.010 | -0.002 | 0.018 |
| | (0.83) | (2.50) | (-0.09) | (2.41) | (0.28) | (-0.15) | (0.49) |
| log (FTE students) | 77.060 | 0.130 | 0.006 | 0.099 | 0.641 | 0.055 | 0.605 |
| | (11.20) | (4.89) | (2.39) | (4.72) | (4.83) | (2.10) | (4.78) |
| Religious affiliation | -37.408 | -0.014 | -0.006 | 0.012 | 0.173 | -0.051 | 0.296 |
| | (-3.68) | (-0.35) | (-1.03) | (0.33) | (0.81) | (-0.85) | (1.65) |
| Intercept | 748.321 | -4.848 | -0.200 | -3.656 | -34.020 | -16.712 | -32.492 |
| | (5.71) | (-6.49) | (-3.50) | (-6.70) | (-14.99) | (-41.95) | (-14.87) |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 13.10% | 21.65% | 8.28% | 20.52% | 14.78% | 6.01% | 15.32% |
| Obs. | 3,320 | 3,321 | 3,321 | 3,321 | 3,321 | 3,321 | 3,321 |

Table III-Continued

| Panel B. Donations, sub-periods | | | | | | |
|---------------------------------|-----------|--------------------|------------------------------|-----------|--------------------|------------------------------|
| The Chronicle of Philanthropy | | | | | | |
| Sample period | 2009-2013 | | | 2014-2017 | | |
| | Donations | Donations from oil | Donations from other sources | Donations | Donations from oil | Donations from other sources |
| SRI | 0.090 | 0.093 | -0.122 | 0.652 | 0.010 | 0.555 |
| | (0.63) | (0.93) | (-0.63) | (1.87) | (0.12) | (2.77) |
| Resist | | | | 1.035 | 0.128 | 1.032 |
| | | | | (3.65) | (5.38) | (4.27) |
| log (Total assets) | 0.491 | 0.056 | 0.458 | 0.671 | 0.099 | 0.547 |
| | (4.05) | (2.75) | (3.70) | (7.10) | (4.16) | (5.68) |
| Annual returns net | -2.534 | 0.984 | -1.691 | 1.176 | -0.695 | 0.171 |
| | (-2.17) | (2.64) | (-0.47) | (0.31) | (-0.55) | (0.06) |
| Volatility | 0.178 | 0.904 | 0.173 | -7.182 | -0.738 | -3.368 |
| | (0.03) | (1.13) | (0.04) | (-0.69) | (-0.27) | (-0.28) |
| Allocation to U.S. Equity | 0.816 | 0.224 | 0.844 | 1.306 | -0.093 | 1.278 |
| | (0.96) | (1.19) | (2.43) | (1.22) | (-1.32) | (0.72) |
| Allocation to Alternatives | 2.399 | 0.124 | 1.734 | 1.745 | -0.093 | 1.704 |
| | (2.25) | (0.42) | (3.93) | (2.20) | (-0.46) | (2.06) |
| Spending rate | 1.743 | 0.791 | -4.204 | 6.829 | -2.080 | 14.093 |
| | (0.21) | (0.82) | (-1.78) | (0.70) | (-0.46) | (2.38) |
| Budget contribution | -1.347 | -0.284 | -0.360 | -0.262 | -0.034 | -0.155 |

| | | | | | | |
|-------------------------|----------|----------|----------|----------|----------|----------|
| | (-1.18) | (-1.37) | (-0.33) | (-0.77) | (-0.24) | (-0.44) |
| Donation contribution | 2.498 | 0.323 | 1.734 | 1.840 | 0.692 | 1.391 |
| | (0.86) | (1.03) | (0.96) | (0.72) | (1.11) | (0.73) |
| FTE staff | 0.021 | -0.007 | 0.021 | 0.024 | 0.004 | 0.046 |
| | (0.27) | (-0.40) | (0.32) | (0.50) | (0.11) | (0.90) |
| log (FTE students) | 0.436 | 0.050 | 0.402 | 0.874 | 0.054 | 0.857 |
| | (1.88) | (1.45) | (1.72) | (6.87) | (0.82) | (11.64) |
| Religious affiliation | 0.073 | -0.151 | 0.274 | 0.421 | 0.029 | 0.412 |
| | (0.20) | (-2.32) | (0.97) | (1.92) | (0.30) | (1.38) |
| Intercept | -28.844 | -16.325 | -28.182 | -34.517 | -16.988 | -32.630 |
| | (-20.09) | (-80.29) | (-11.13) | (-12.66) | (-37.64) | (-12.72) |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 11.07% | 4.54% | 12.34% | 16.57% | 8.53% | 16.17% |
| Obs. | 1,462 | 1,462 | 1,462 | 1,397 | 1,397 | 1,397 |

Table IV: SRI and Exposures to Asset Classes

The Table presents the results of panel regressions of quarterly endowment excess returns on various asset class excess returns and interaction terms between asset class excess returns and the indicator variable "SRI" indicating the endowment's standing with respect to socially responsible investments. Panel A shows regression results where the set of asset classes includes: "U.S. Equity", Russell 3000 Index; "Fixed Income", Bloomberg Barclays US Aggregate Bond Index; "International Equity", MSCI ACWI ex USA Index; "Hedge Funds", HFRI Fund of Funds Composite Index; "Private Equity", Cambridge Associates LLC US Private Equity Index. Panel B shows regression results where the set of asset classes includes: "Oil", Fama and French oil industry portfolio; "Vice", USA Mutuals Vice Investor Fund. Endowment fund fixed effects are included. Sample period spans the interval from 2012 to 2017. The t-statistics are reported in parentheses.

| Panel A. Exposures to asset classes, 2012-2017 | |
|--|-------------------|
| U.S. Equity*SRI | -0.020 (-1.16) |
| Fixed Income*SRI | -0.017 (-0.87) |
| International Equity*SRI | 0.000 (0.04) |
| Hedge Funds*SRI | -0.005 (-0.13) |
| Private Equity*SRI | 0.007 (0.34) |
| U.S. Equity | 0.225 (22.36) |
| Fixed Income | 0.187 (14.01) |
| International Equity | 0.218 (34.08) |
| Hedge Funds | 0.207 (7.01) |
| Private Equity | 0.195 (12.42) |
| Intercept | 0.006 (17.15) |
| Fund fixed effects | Yes |
| Adjusted R-squared | 76.52% |
| Obs. | 12,126 |

Table IV-Continued

| Panel B. Exposures to oil and vice | | | | | | | | | |
|------------------------------------|-----------|---------|--------|-----------|---------|--------|-----------|---------|--------|
| Sample period | 2012-2017 | | | 2012-2013 | | | 2014-2017 | | |
| Oil*SRI | -0.055 | -0.020 | | -0.021 | -0.010 | | -0.028 | -0.015 | |
| | (-6.52) | (-3.21) | | (-1.42) | (-0.95) | | (-4.24) | (-2.58) | |
| Vice*SRI | -0.078 | -0.022 | | -0.030 | -0.018 | | -0.027 | -0.010 | |
| | (-7.67) | (-3.93) | | (-1.42) | (-0.81) | | (-5.11) | (-2.15) | |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Fund fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R-squared | 37.74% | 32.29% | 57.52% | 63.41% | 79.62% | 79.62% | 20.64% | 16.25% | 43.17% |
| Obs. | 12,126 | 12,126 | 12,126 | 3,499 | 3,499 | 3,499 | 8,627 | 8,627 | 8,627 |

Table V: SRI and Endowment Costs

The Table presents the panel regression results of costs of managing the endowment on the indicator variable "SRI" indicating an endowment's implementation of social responsible investing and other characteristics of the endowment and the university. Panel A shows regression results that cover the sample period from 2009 to 2017. Panel B and Panel C present regression results based on two sub-periods that are 2009-2013 and 2014-2017. Measures of costs include: "Total costs", the total costs of managing the endowment; "Management fees", "Incentive fees", "Consultant fees", "Direct expenses", "Staff salary", and "Other fees", different types of expenses and fees included in "Total costs". All types of costs are measured in basis points. "Resist" is an indicator variable equal to one if the endowment experiences requests from stakeholders on SRI considerations but responds with "No" to all the questions pertaining to social responsibility in investments. The rest of the variables are defined in Table I. Carnegie classification, year fixed effects, and state fixed effects are included. The t-statistics are reported in parentheses.

| Panel A. Costs, 2009-2017 | | | | | | | |
|----------------------------|-------------------|-------------------|-----------------|-------------------|-------------------|-------------------|-------------------|
| | Total costs | Management fees | Incentive fees | Consultant fees | Direct expenses | Staff pay | Other fees |
| SRI | 8.613 (4.82) | 9.730 (9.50) | 0.914 (1.38) | -0.700 (-1.63) | -1.890 (-3.41) | 1.799 (2.44) | -0.404 (-0.90) |
| Resist | 8.124 (4.39) | 11.109 (6.76) | 1.543 (2.24) | -0.983 (-1.09) | 0.964 (0.89) | 1.534 (0.59) | -1.337 (-2.33) |
| log (Total assets) | -2.306 (-2.11) | 3.166 (7.89) | 0.817 (5.81) | -2.572 (-7.28) | -1.198 (-2.90) | -2.065 (-3.77) | 0.275 (1.00) |
| Annual returns net | 0.002 (0.55) | 0.000 (-0.10) | 0.000 (0.04) | 0.000 (0.54) | -0.001 (-0.75) | 0.000 (-0.26) | 0.001 (0.89) |
| Volatility | -0.001 (-0.14) | 0.001 (0.17) | 0.001 (0.28) | 0.000 (0.14) | -0.001 (-0.17) | -0.001 (-0.42) | -0.001 (-0.94) |
| Allocation to U.S. Equity | -0.002 (-1.79) | -0.001 (-1.25) | 0.000 (0.26) | -0.002 (-7.85) | 0.001 (2.78) | 0.000 (-0.79) | 0.000 (1.84) |
| Allocation to Alternatives | 0.005 (7.26) | 0.001 (4.01) | 0.002 (3.18) | 0.000 (1.22) | 0.001 (2.33) | 0.001 (2.54) | 0.000 (0.46) |

| | | | | | | | |
|-------------------------|-------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|
| Spending rate | 0.006 (1.25) | 0.004 (0.91) | 0.005 (2.26) | -0.002 (-1.56) | 0.000 (-0.21) | 0.004 (1.04) | -0.002 (-1.39) |
| Budget contribution | 0.003 (12.25) | 0.001 (15.05) | 0.000 (0.27) | 0.000 (0.06) | 0.001 (1.96) | 0.000 (-0.15) | 0.000 (1.60) |
| FTE staff | -1.374 (-4.60) | -1.701 (-7.97) | -0.237 (-2.39) | -0.336 (-4.10) | -0.086 (-1.08) | 0.805 (4.74) | -0.021 (-0.21) |
| log (FTE students) | 7.906 (7.31) | 3.977 (8.77) | -0.452 (-1.11) | 0.107 (0.39) | 0.583 (1.38) | 2.866 (5.40) | 0.440 (1.18) |
| Religious affiliation | -9.375 (-6.04) | -2.309 (-2.41) | -3.757 (-4.76) | 0.321 (0.75) | 0.392 (0.70) | -2.706 (-3.66) | -1.046 (-1.72) |
| Intercept | 64.849 (4.36) | -99.398 (-9.58) | -19.881 (-6.40) | 102.988 (5.03) | 7.907 (1.27) | 32.618 (3.90) | 21.451 (0.76) |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 13.34% | 12.54% | 9.18% | 14.84% | 4.62% | 13.67% | 3.22% |
| Obs. | 3,321 | 2,979 | 2,969 | 2,979 | 2,974 | 3,017 | 2,972 |

Table V-Continued

| Panel B. Costs, 2009-2013 | | | | | | | |
|---------------------------|-------------|-----------------|----------------|-----------------|-----------------|-----------|------------|
| | Total costs | Management fees | Incentive fees | Consultant fees | Direct expenses | Staff pay | Other fees |
| SRI | 12.876 | 12.074 | 2.719 | -0.515 | -0.391 | 1.001 | -0.055 |
| | (8.55) | (7.15) | (2.82) | (-0.93) | (-0.40) | (3.16) | (-0.06) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 13.32% | 13.04% | 9.69% | 14.59% | 3.06% | 20.63% | 8.94% |
| Obs. | 1,462 | 1,300 | 1,297 | 1,301 | 1,299 | 1,298 | 1,297 |
| Panel C. Costs, 2014-2017 | | | | | | | |
| | Total costs | Management fees | Incentive fees | Consultant fees | Direct expenses | Staff pay | Other fees |
| SRI | 4.823 | 8.076 | -0.631 | -0.906 | -2.803 | 2.383 | -0.515 |
| | (2.51) | (9.40) | (-2.85) | (-1.12) | (-3.49) | (1.50) | (-0.94) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 15.10% | 12.14% | 8.08% | 13.65% | 4.78% | 17.26% | 3.37% |
| Obs. | 1,397 | 1,277 | 1,270 | 1,276 | 1,273 | 1,317 | 1,273 |

Table VI: SRI and Endowment Performance

The Table presents the results of panel regressions of endowment performance measures on the indicator variable "SRI" indicating the endowment's standing with respect to socially responsible investments and other characteristics of the endowment and the university. Panel A shows the regression results that cover the sample period from 2009 to 2017. Panel B presents the regression results with Oil-and-Vice-adjusted performance measures based on the sample period between 2009 and 2017. Panel C and Panel D show the regression results with Oil-and-Vice-adjusted performance measures based on two sub-periods that are 2009-2013 and 2014-2017. Measures of performance include "Annual return net", the annual return of the endowment after fees; "Annual return gross", the annual return of endowment before fees; "Volatility", the annualized volatility of the endowment; "Alpha volatility", the annualized volatility of the quarterly alpha. "Alpha net", the difference between the endowment's annual return after fees and its policy portfolio return; "Alpha gross", the difference between the endowment's annual return before fees and its policy portfolio return; "Sharpe ratio", the Sharpe ratio of endowment portfolio; "Annual return net-Oil & Vice", the Oil-and-Vice-adjusted annual return of the endowment after fees; "Annual return gross-Oil & Vice", the Oil-and-Vice-adjusted annual return of the endowment before fees; "Alpha net-Oil & Vice", the difference between the endowment's Oil-and-Vice-adjusted annual return after fees and its Oil-and-Vice-adjusted policy portfolio return; "Alpha gross-Oil & Vice ", the difference between the endowment's Oil-and-Vice-adjusted annual return before fees and its Oil-and-Vice-adjusted policy portfolio return. Except for "Sharpe ratio", all dependent variables are measured in basis points. "Resist" is an indicator variable equal to one if the endowment experiences requests from stakeholders on SRI considerations but responds with "No" to all the questions pertaining to social responsibility in investments. The rest of the variables are defined in Table I. Carnegie classification, year fixed effects and state fixed effects are included. The t-statistics are reported in parentheses.

Panel A. Performance, 2009-2017

| | Annual returns net | Annual returns gross | Volatility | Alpha volatility | Alpha net | Alpha gross | Sharpe ratio |
|----------------------------|--------------------|----------------------|------------|------------------|-----------|-------------|--------------|
| SRI | 8.064 | 16.681 | 11.472 | 8.654 | 6.547 | 15.597 | 0.008 |
| | (0.84) | (1.90) | (5.02) | (1.92) | (0.61) | (1.67) | (0.49) |
| Resist | 2.073 | 10.198 | 16.317 | -1.800 | 8.954 | 17.938 | 0.011 |
| | (0.07) | (0.36) | (3.87) | (-0.40) | (0.57) | (1.26) | (0.53) |
| log (Total assets) | 29.526 | 27.268 | 26.408 | -6.802 | 24.492 | 22.647 | 0.026 |
| | (2.72) | (2.41) | (7.97) | (-3.05) | (2.70) | (2.33) | (2.87) |
| Annual returns net | | | 0.043 | 0.009 | | | |
| | | | (0.98) | (0.72) | | | |
| Volatility | 0.134 | 0.134 | | | -0.013 | -0.008 | 0.000 |
| | (1.19) | (1.19) | | | (-0.13) | (-0.08) | (-2.10) |
| Allocation to U.S. Equity | 0.019 | 0.024 | 0.046 | 0.002 | -0.008 | -0.039 | 0.000 |
| | (1.33) | (1.63) | (6.16) | (0.54) | (-1.15) | (-3.49) | (-2.38) |
| Allocation to Alternatives | 0.067 | 0.065 | 0.082 | 0.005 | -0.036 | -0.004 | 0.000 |
| | (4.64) | (4.30) | (8.00) | (1.74) | (-3.40) | (-0.54) | (-6.21) |
| Spending rate | -0.066 | -0.060 | -0.003 | -0.047 | -0.091 | -0.080 | 0.000 |
| | (-1.86) | (-1.76) | (-0.21) | (-3.15) | (-2.85) | (-2.47) | (-1.69) |
| Budget contribution | 0.000 | 0.003 | -0.004 | 0.000 | -0.003 | 0.000 | 0.000 |
| | (-0.09) | (1.04) | (-1.96) | (0.00) | (-0.93) | (0.09) | (-0.96) |
| FTE staff | 3.290 | 1.924 | 3.966 | 2.399 | 0.318 | -1.112 | -0.001 |
| | (1.02) | (0.56) | (4.01) | (1.88) | (0.22) | (-0.71) | (-0.23) |

| | | | | | | | |
|-------------------------|---------|---------|---------|---------|----------|----------|---------|
| log (FTE students) | -1.468 | 6.428 | 2.399 | -1.164 | -5.347 | 2.020 | -0.007 |
| | (-0.30) | (1.46) | (0.64) | (-0.46) | (-2.18) | (1.21) | (-0.82) |
| Religious affiliation | -15.741 | -25.151 | -0.302 | -0.857 | -11.433 | -21.226 | -0.014 |
| | (-2.96) | (-5.58) | (-0.06) | (-0.20) | (-1.57) | (-3.11) | (-1.29) |
| Intercept | 56.094 | 119.387 | -13.375 | 193.482 | -175.005 | -116.489 | -0.127 |
| | (0.14) | (0.30) | (-0.15) | (2.58) | (-0.82) | (-0.55) | (-0.96) |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 91.88% | 91.53% | 32.37% | 11.23% | 16.93% | 18.32% | 16.84% |
| Obs. | 3,321 | 3,321 | 3,321 | 1,830 | 3,107 | 3,107 | 3,107 |

Table VI -Continued

| Panel B. Oil-and-Vice-adjusted returns and alpha, 2009-2017 | | | | |
|---|-------------------------------|---------------------------------|----------------------|------------------------|
| | Annual returns net-Oil & Vice | Annual returns gross-Oil & Vice | Alpha net-Oil & Vice | Alpha gross-Oil & Vice |
| SRI | -84.927 (-1.89) | -76.586 (-1.71) | -81.593 (-1.79) | -72.533 (-1.59) |
| Resist | -27.254 (-0.89) | -20.819 (-0.71) | -39.876 (-1.18) | -32.658 (-0.99) |
| log (Total assets) | 30.535 (2.02) | 27.317 (1.79) | 25.650 (1.26) | 23.183 (1.13) |
| Volatility | 0.091 (0.97) | 0.094 (1.00) | 0.212 (1.45) | 0.219 (1.47) |
| Allocation to U.S. Equity | 0.059 (3.38) | 0.059 (3.29) | 0.038 (1.77) | 0.037 (1.70) |
| Allocation to Alternatives | 0.059 (7.34) | 0.067 (7.62) | 0.065 (6.20) | 0.072 (6.60) |
| Spending rate | -0.017 (-0.32) | -0.008 (-0.14) | -0.005 (-0.10) | 0.006 (0.09) |
| Budget contribution | 0.000 (-0.09) | 0.002 (0.42) | -0.004 (-1.32) | -0.002 (-0.86) |
| FTE staff | -8.891 (-4.88) | -10.274 (-5.11) | -13.532 (-8.58) | -15.000 (-9.21) |
| log (FTE students) | -13.611 | -6.138 | -10.799 | -4.143 |

| | | | | |
|-------------------------|---------|---------|---------|---------|
| | (-1.27) | (-0.55) | (-0.81) | (-0.30) |
| Religious affiliation | -41.255 | -37.812 | -37.421 | -35.167 |
| | (-2.00) | (-1.76) | (-2.13) | (-1.91) |
| Intercept | 554.155 | 536.316 | 439.017 | 411.141 |
| | (2.30) | (2.22) | (1.60) | (1.52) |
| Carnegie classification | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes |
| Adj. R-squared | 45.58% | 45.40% | 21.23% | 21.58% |
| Obs. | 2,281 | 2,281 | 2,177 | 2,177 |

Table VI -Continued

| Panel C. Oil-and-Vice-adjusted returns and alpha, 2009-2013 | | | | | | | | | |
|---|--------------------|-------------------------------|----------------------|---------------------------------|--------------------|----------------------|-------------------|------------------------|-----|
| | Annual returns net | Annual returns net-Oil & Vice | Annual returns gross | Annual returns gross-Oil & Vice | Alpha net | Alpha net-Oil & Vice | Alpha gross | Alpha gross-Oil & Vice | |
| SRI | -11.432 (-0.86) | -141.292 (-6.43) | 1.385 (0.10) | -129.942 (-6.61) | -19.029 (-1.90) | -123.588 (-5.52) | -5.340 (-0.49) | -111.536 (-5.57) | |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 91.47% | 31.78% | 91.26% | 31.82% | 17.93% | 13.22% | 19.65% | 13.85% | |
| Obs. | 1,462 | 1,010 | 1,462 | 1,010 | 1,385 | 969 | 1,385 | 969 | |
| Panel D. Oil-and-Vice-adjusted returns and alpha, 2014-2017 | | | | | | | | | |
| | Annual returns net | Annual returns net-Oil & Vice | Annual returns gross | Annual returns gross-Oil & Vice | Alpha net | Alpha net-Oil & Vice | Alpha gross | Alpha gross-Oil & Vice | |
| SRI | 32.814 (3.19) | -12.747 (-0.12) | 37.648 (3.85) | -5.387 (-0.05) | 34.120 (2.36) | -23.914 (-0.21) | 38.951 (2.89) | -15.326 (-0.13) | |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 88.13% | 57.15% | 87.54% | 57.05% | 17.55% | 27.54% | 18.36% | 27.90% | |
| Obs. | 1,397 | 954 | 1,397 | 954 | 1,293 | 906 | 1,293 | 906 | |

Table VII: SRI and Total Additions

The Table presents the results of panel regressions of endowment total additions on the indicator variable "SRI" indicating the endowment's standing with respect to socially responsible investments and other characteristics of the endowment and the university. Measures include "Total additions", the sum of appreciation, investment income, donations, and other additions; "Total additions-Oil & Vice", the Oil-and-Vice-adjusted total additions. All dependent variables are measured in basis points. "Resist" is an indicator variable equal to one if the endowment experiences requests from stakeholders on SRI considerations but responds with "No" to all the questions pertaining to social responsibility in investments. The rest of the variables are defined in Table I. Carnegie classification, year fixed effects and state fixed effects are included. The sample period spans the time interval from 2009 to 2017. The t-statistics are reported in parentheses.

| Sample period | 2009-2017 | | 2009-2013 | | 2014-2017 | |
|----------------------------|--------------------|----------------------------|--------------------|----------------------------|---------------------|----------------------------|
| | Total additions | Total additions-Oil & Vice | Total additions | Total additions-Oil & Vice | Total additions | Total additions-Oil & Vice |
| SRI | 31.744 (1.96) | -24.480 (-0.68) | 2.547 (0.07) | -50.075 (-1.31) | 63.189 (2.30) | -6.033 (-0.07) |
| Resist | 65.870 (2.03) | -26.530 (-0.69) | | | 80.093 (1.31) | -23.094 (-0.30) |
| log (Total assets) | -82.000 (-7.78) | -26.709 (-1.88) | -99.867 (-5.11) | -40.053 (-1.70) | -62.186 (-14.44) | -19.431 (-1.13) |
| Annual returns net | -0.035 (-0.55) | 0.007 (0.12) | -0.088 (-0.97) | -0.001 (-0.02) | -0.087 (-1.61) | 0.100 (0.71) |
| Volatility | 0.209 (1.68) | -0.029 (-0.48) | 0.127 (0.81) | -0.114 (-1.29) | 0.178 (0.85) | 0.049 (0.45) |
| Allocation to U.S. Equity | 0.022 (1.42) | 0.067 (4.17) | 0.067 (4.28) | 0.081 (2.64) | 0.046 (1.74) | 0.058 (1.99) |
| Allocation to Alternatives | 0.049 (3.73) | 0.063 (5.15) | 0.025 (3.54) | 0.052 (3.21) | 0.022 (0.55) | 0.082 (7.40) |
| Spending rate | 0.194 (2.88) | 0.234 (2.97) | 0.301 (3.16) | 0.246 (2.07) | 0.247 (2.57) | 0.143 (1.05) |
| Budget contribution | 0.010 (1.51) | 0.012 (1.58) | 0.001 (0.07) | 0.017 (1.57) | 0.015 (2.12) | 0.001 (0.03) |
| Donation contribution | 0.000 (0.43) | 0.006 (0.31) | 0.000 (-0.13) | 0.027 (0.96) | 0.000 (1.24) | -0.022 (-0.73) |
| FTE staff | 9.089 (2.24) | -12.897 (-2.61) | 15.833 (2.72) | -2.432 (-0.32) | 2.862 (0.46) | -21.856 (-6.71) |

| | | | | | | |
|-------------------------|----------|----------|----------|----------|----------|-----------|
| log (FTE students) | 96.999 | 56.149 | 104.766 | 40.314 | 75.693 | 68.623 |
| | (5.75) | (3.64) | (3.35) | (6.23) | (2.69) | (1.75) |
| Religious affiliation | -17.462 | -98.464 | -14.111 | -90.471 | -20.461 | -98.834 |
| | (-1.33) | (-4.22) | (-0.51) | (-2.76) | (-1.26) | (-1.97) |
| Intercept | 1065.086 | -621.934 | 1167.528 | -444.306 | 1005.115 | -1056.591 |
| | (5.22) | (-1.70) | (4.13) | (-1.17) | (2.68) | (-1.76) |
| Carnegie classification | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| State fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-squared | 69.19% | 33.94% | 70.73% | 23.47% | 56.84% | 43.84% |
| Obs. | 3,221 | 2,086 | 1,413 | 917 | 1,357 | 878 |