ESG fund scores in UK SRI and conventional pension funds: are the ESG concerns of the SRI niche affecting the conventional mainstream?

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Highlights

- Increasingly conventional pension funds are considering ESG factors.
- ESG scores of conventional and SRI funds are influenced by common characteristics.
- The SRI-fund nature positively influences ESG scores.
- SRI funds outperform.
- A higher ESG screening intensity provides greater return and larger flows.

ESG fund scores in UK SRI and conventional pension funds: are the ESG concerns of the SRI niche affecting the conventional mainstream?

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Abstract

This paper analyses the increasing practice of considering environmental, social, and governance (ESG) factors by conventional pension funds. We study whether the SRI (Social Responsible Investing) concerns are affecting traditional management. In an initial sample of 22 SRI and 221 conventional UK domestic equity pension funds from 2016 to 2018, we apply the nearest-neighbour matching to account for fund-characteristic differences, selecting 20 matched conventional funds. We then analyse the influence of fund characteristics on ESG fund scores, and the ESG-score impact on performance and flows with linear models. Our results show that the ESG scores of conventional and SRI funds are influenced by some common characteristics (age/turnover and expenses negatively/positively influence ESG scores), which are consistent with SRI features. Additionally, a higher ESG screening intensity provides greater return and larger flows. Nonetheless, SRI funds do not lose their identity, positively influencing into ESG scores to a greater extent and outperforming.

Keywords: conventional fund, ESG, financial factor, pension fund, SRI

JEL codes: A13, G11, G23

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1. Introduction.

The evolution of the Social Responsible Investing (SRI) has generated diverse ESG criteria, producing SRI funds with dissimilar ESG scores (Joliet and Titova, 2018). Barnett and Salomon (2006) and Gangi and Varrrone (2018) indicate that SRI funds have diminishes the ESG standards to provide similar performance to conventional funds. Becchetti and Ciciretti (2009) argue that not too restrictive ESG criteria reduce SRI information costs and increase the limited ESG stock universe. Some studies notice SRI funds with low ESG scores because some funds include the SRI denomination to attract inflows (Cooper et al., 2005; Gangi and Varrrone, 2018; Kempf and Osthoff, 2008). These conducts are understood by several authors as a convergence of SRI and traditional management, moving from a SRI niche to a mainstream SRI (Dunfee, 2003; Hellsten and Mallin, 2006; Revelli 2017). This raises the concern about the real ethics of SRI funds (Hellsten and Mallin, 2006). While the SRI niche selects ESG assets causing management constraint, the mainstream SRI pursues to integrate the ESG dimension into conventional management (Azoulay and Zeller, 2006; Revelli, 2017).

Additionally, recent studies find that conventional funds are increasingly considering ESG criteria due to several reasons. First, the integration of ESG principles as part of the fiduciary duty has been internationally accepted (UNEP FI, 2009). Second, the increasing demand of stakeholders regarding their impact on the environment and society (Goy and Schwarzer, 2013). Third, conventional funds seek to restore the trust in their damaged legitimacy and contain the effects of crises (Gangi and Trotta, 2015; Joliet and Titova, 2018). Furthermore, the ESG integration is an opportunity to generate profits (Revelli, 2017). Consequently, the SRI niche may be crossing the border of conventional funds, expanding to the conventional-management mainstream.

The latter behaviour may be noteworthy in pension funds, given their pro-social behaviour, long-term investment horizon, management of large retirement savings, high political profile, and common association with labour movements (Arnold and Hammond, 1994; Himick and Audousset-Coulier, 2016; Neu and Taylor, 1996; Sandberg, 2013; Sievänen et al., 2017). Sparkes and Cowton (2004) find that the adoption of SRI policies by pension funds has largely increased in countries such as the UK, one of the pioneers on regulating the ESG disclosure to enhance the importance of non-financial risks (Eurosif, 2017; UKSIF, 2018). Nevertheless, the SRI pension-fund literature is negligible (Ferruz et al., 2010; Siëvannen et al., 2017), despite the fact that

the motivation, objectives, time horizon, and clientele may differ with regard to other institutional investors (Hoskisson et al., 2002).

This scenario raises the need to analyse the implications of including ESG concerns by conventional funds. Hence, this paper contributes on the emerging debate about the expansion of the SRI niche into the mainstream. In a sample of UK pension funds, we examine whether similar managerial characteristics determine the ESG scores of SRI and conventional funds, the importance of the SRI label, and the influence of ESG scores on fund results.

2. Literature review.

The growing concern of investors about the ESG impact of their investments has increased the accountability of conventional funds regarding their ESG investment practices (Armstrong and Green, 2013; Arjaliès, 2010; Crifo and Mottis, 2013; Hasford and Farmer, 2016). This trend raises whether conventional funds follow similar managerial and fund structures to SRI funds to integrate ESG criteria. Whether this conduct materializes, we expect similar fund and managerial characteristics influencing the ESG scores of both conventional and SRI funds. Specifically, the SRI niche selects ESG assets causing constraints, due to higher ESG screening costs, a limited ESG asset universe, and the long-term character of ESG practices (Azoulay and Zeller, 2006; Martí-Ballester, 2015; Revelli, 2017). Thus, whether the SRI niche spreads to the conventional mainstream, we expect higher ESG scores in funds with larger resources (size and flows), higher costs (expense ratio), lower performance, and lower volatility. Nevertheless, characteristic commonalities may also be due to the dilution of ESG criteria by SRI funds to generate similar performance to conventional funds, questioning the real ethics of SRI funds (Hellsten and Mallin, 2006; Revelli and Viviani, 2015). Whether the primary objective of SRI funds remains, we expect the SRI denomination to be a quality label to reach superior ESG scores.

On the other hand, ESG fund scores indicate the required ESG standards. Superior ESG-scored funds usually face additional screening information costs and investment-opportunity losses, which may cause suboptimal performance (Aslaksen and Synnestwedt, 2003; Barnett and Solomon, 2006; Becchetti and Ciciretti, 2009; Gangi and Varrone, 2018; Jin and Han 2018). Although, as far as we know, no prior studies analyse the impact of ESG scores on pension-fund results, several works point out that the ESG screening intensity of SRI funds affects performance, finding mixed evidence (Barnett and Salomon, 2006; Bauer et al., 2005; Bauer et al., 2006; Bauer et al., 2007;

Erragraguy and Revelli, 2015; Gangi and Varrrone, 2018; Ibikunle and Steffen, 2017; Lesser et al., 2016). In this line, we expect that the demand level in the ESG criteria of conventional funds will also affect their results.

3. Data and methodology.

3.1. Data.

The data of UK domestic equity pension funds are obtained from Morningstar Direct and include the daily return, monthly return, monthly Total Net Assets (TNA), inception date, manager history, annual turnover ratios, annual expense ratios, a SRI dummy (which equals one/zero if a fund is a SRI/conventional fund), and four annual ESG fund scores: total ESG, Environmental, Social, and Governance, ranging from 0 (lowest) to 1 (highest). Our sample period is from January 2016 to December 2018 because Morningstar launched ESG fund scores in 2016. We exclude index funds and conventional funds without ESG score for robustness.[1] We include both live and dead funds to avoid survivorship bias. The sample is formed by 243 pension funds, divided into 22 SRI and 221 conventional funds.

We calculate the monthly volatility as the standard deviation of the daily returns by month. From the inception date, we obtain the monthly age. Monthly flows are: $Flows_{it} = (TNA_{it} - TNA_{it-1} * (1 + R_{it}))/TNA_{it-1}$, where R_{it} is the return of fund *i* at month *t*. Flows are winsorised at the bottom and top 1% level to avoid extreme-value issues. From the manager history, we calculate the monthly manager experience, a team dummy, and a manager-change dummy. The team variable equals one at month *t* if a fund is managed by a team and zero otherwise. The manager-change variable equals one at month *t* if a fund experiences manager replacement and zero otherwise. The monthly four-factor alpha of Carhart (1997) is obtained from the daily fund returns and daily European risk factors.[2]

Given the size differences between conventional and SRI fund sub-samples, we apply the r:1 nearest-neighbour matching method (Rubin, 1973) to select matched conventional funds. This matching avoids bias from inadequate comparison basis, provides fund-characteristic balance between sub-samples, and improves parametric statistical models (Ammann et al., 2019; Bilbao-Terol et al. 2017; Joliet and Titova, 2018). The method matches the control individuals (conventional funds) to the treated

[1] Morningstar does not rank all conventional funds, presenting data limitations.

[2] The risk factors are from French's website: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

group (SRI) with the smallest distance between them on several characteristics (ESG score, performance, size, turnover, and expense ratios), discarding non-matched control individuals. The propensity score is used as the similarity measure between funds, estimated with logistic regression on fund characteristics. We apply a 1:1 nearest neighbour matching, allowing the same control fund to be matched multiple times (Ammann et al., 2019; Bilbao-Terol et al. 2017). Our matching provides 20 matched conventional funds.[3] Table 1 shows that the matched conventional funds improve the balance of fund characteristics regarding SRI-fund characteristics (panel D).[4] Matched funds present significantly lower age, lower turnover, lower expense ratio, and are handled by more experienced managers. SRI funds present non-significant higher ESG and governance scores, and significantly higher/lower environmental/social scores.

Insert Table 1

3.2. Methodology.

First, we examine the influence of fund and managerial characteristics on the ESG fund score.

$$ESG_{i,t} = F(SRIdummy_{i,t}; Alpha_{i,t}\ \mathrm{Re}turn_{i,t-1}; Volatility_{i,t}; Size_{i,t-1}; Age_{i,t-1}; Turnover_{i,t-1}; Expense_{i,t-1}; Flows_{i,t-1}; Team_{i,t-1}; M\_\exp erience_{i,t-1}; M\_change_{i,t-1}) \quad (1)$$

Where: $ESG_{i,t}$ may be: $ESG\_score_{i,t}$, $Environmental\_score_{,t}$, $Social\_score_{i,t}$, or $Governance\_score_{i,t}$, which are the ESG, environmental, social, or governance score of fund *i* at month *t*, respectively.[5] $SRIdummy_{it}$ equals one if fund *i* is a SRI fund and zero otherwise. The first group of characteristics is related to financial results: $Alpha_{i,t-1}$, $Return_{i,t-1}$, and $Volatility_{i,t-1}$ are the alpha, the return, and the volatility of fund *i* at month *t-1*. The second group controls for fund characteristics: $Size_{i,t-1}$ is the logarithm of TNA of fund *i* at month *t-1*; $Age_{i,t-1}$ is the logarithm of the age (months) of fund *i* at month *t-1*; $Turnover_{i,t-1}$ is the turnover ratio of fund *i* at month *t-1*; $Expense_{i,t-1}$ is the expense ratio of fund *i* at month *t-1*; and $Flows_{,t-1}$ are the flows of fund *i* at month *t-1*. The last group includes managerial features: $Team_{i,t-1}$ equals one if fund *i* is managed by a team at month *t-1* and zero otherwise; $M\_experience_{i,t-1}$ is the manager experience in fund *i* at

[3] The propensity score is the probability of receiving the SRI label, given the fund characteristics. We also apply a 2:1 matching, reaching similar empirical results; however, the balance between samples is poorer. These results are available upon request.

[4] Figure 1 shows the Q-Q plot of the ESG-score between samples and supports the balance of the matched funds. The remaining variable Q-Q plots also show this evidence (available upon request).

[5] We develop our analyses on monthly basis; thus, in the case of annual variables, we maintain the annual value for all months annually.

month *t-1*; and $M\_change_{,t-1}$ equals one if fund *i* experiences manager change at month *t-1* and zero otherwise. Independent variables are lagged to avoid endogeneity.

Second, we study the impact of the SRI-fund nature and ESG scores on alpha, return, and flows.

$$Fund\_result_{i,t} = f(SRIdummy_{i,t}; ESG\_score_{i,t}; Volatility_{i,t-1}; Size_{i,t-1}; Age_{i,t-1}; Turnover_{i,t-1}; Expense_{i,t-1}; Flows_{i,t-1}; Team_{i,t-1}; M\_experience_{i,t-1}; M\_change_{i,t-1}; Time_{i,t}) \quad (2)$$

Where: $Fund\_result_{it}$ is the alpha, return, or flows of fund *i* at month *t*. $Time_{it}$ are monthly-time variables to control for monthly time-effects. The remaining variables are defined in (1). Clarify that the independent flows variable is replaced by alpha when flows is the dependent variable.

Model (3) separately analyses the influence of Environmental, Social, and Governance scores because contrary results between dimensions may offset results (Ziegler et al., 2007).

$$Fund\_result_{i,t} = f(SRIdummy_{i,t}; Environ\_score; Social\_score; Gov\_score; Size_{i,t}; Age_{i,t}; Turnover_{i,t}; Expense_{i,t}; Flows_{i,t}; Team_{i,t}; M\_experience_{i,t}; M\_change_{i,t}) \quad (3)$$

Where: $Environ\_score_{it,}$ $Social\_score_{it,}$ and Gov_score_{it} are the Environmental, Social, and Governance scores of fund *i* at month *t*.

4. Results.

Table 2 shows the results of model (1). Panel A shows that SRI funds present higher scores than conventional funds. This evidence is consistent with our premise that SRI funds preserving their ethical objective present significantly higher ESG scores. However, SRI funds focus on/disregard the environmental/social dimension; that is, SRI funds present greater concern about environmental issues, and conventional funds concentrate on the classic pro-social purpose of pension funds (Sievänen et al., 2017). In general, funds with higher return, lower volatility, larger size, lower age, higher turnover, higher expense ratios, and suffering manager changes present higher ESG scores. These results are consistent with our initial expectations that top ESG funds apply more demanding ESG criteria, requiring steadier results, more resources, younger organizations, and greater ESG information costs (Jain and Jamali, 2016; Wang and Chen 2017).

We further analyse the influence of characteristics by sub-sample. The non-significant influence of financial variables (alpha, return, and volatility) in panel B shows that financial results do not determine ESG conventional-fund scores. Therefore, conventional funds are diverting from the traditional concern about financial results

when considering ESG criteria. Revelli (2017) indicates that the convergence of SRI and traditional management creates hybrid conventional funds, in which ethics is implanted in the financial purpose. In contrast, panel C shows an inverse relation between alpha, return, size, and the ESG SRI-fund scores. These results are consistent with the demanding ESG standards of the SRI niche (Azoulay and Zeller, 2006; Revelli, 2017). The other results display some commonalities in the managerial characteristics influencing SRI-fund and conventional-fund scores (panels A-C). We previously argue that conventional-fund and SRI-fund scores will depend on similar features whether conventional funds integrate ESG criteria by following analogous patterns to SRI funds, or whether SRI funds reduce ESG standards. Our results are in accordance with the former; that is, the spread of the SRI niche to the conventional mainstream and the increasing ESG concerns of conventional funds. Specifically, the similarities found are related to SRI criteria, and the relation between SRI-fund scores and fund characteristics corresponds to the SRI-niche demands.

Table 3 shows the results of models (2)-(3). Column 1 of panels A-B shows that SRI funds outperform conventional funds. Ibikunle and Steffen (2017) also note that markets overestimated the SRI risks, disregarding the potential SRI opportunities. The non-significant ESG-score coefficients in column 1 reveal that SRI managers are SRI-niche performer specialists (Ibikunle and Steffen 2017). Columns 2-3 of panel A show non-significant SRI dummies and positive influence of ESG scores on return and flows. Although the SRI coefficients are not significant, we find that SRI funds present higher scores (Table 2), thus, the return and flows of SRI funds will also increase. Additionally, we should note that the potential profits (return and flows) of superior ESG practices may be attracting conventional funds to integrate ESG factors (Revelli, 2017). Panel B shows that the positive ESG effect on return is due to the ESG integration (versus the non-individual influence, Ziegler et al., 2007), and the positive impact on flows is due to superior environmental screenings. Consistent with Sievänen et al. (2017), our results indicate that integrating ESG factors may provide balance between finance and responsibility in pension funds.

Insert Tables 2-3

5. Conclusions.

The increasing practice of considering ESG factors by conventional pension funds raises the need to analyse whether conventional and SRI funds share some features in the ESG criteria applied, which lead to reach certain ESG level.

Additionally, we study the effect of ESG scores on fund results. In a sample of UK SRI and matched conventional domestic equity pension funds, our results show that implementing more demanding ESG strategies (i.e. higher ESG fund scores) requires more resources and costs, consistent with the ESG investment constraints (screening costs and limited asset universe). These findings indicate some commonalities in the managerial characteristics influencing SRI-fund and conventional-fund scores. Additionally, the similarities are related to SRI criteria; hence, conventional funds present similar ESG concerns to SRI funds. Nonetheless, SRI funds preserve their SRI nature, reaching higher scores. On the other hand, SRI funds outperform and higher ESG scores positively influence return and flows in both SRI and conventional funds. Consequently, the risk management of non-financial factors add value to pension participants' savings. Nevertheless, the pension-fund industry should continue offering new funds in response to the increasing ESG concerns of participants and the development of the SRI niche towards the mainstream of conventional funds.

Although this study provides novel findings, the significance of our results is limited by the data and valid for the period and country studied. To overcome the available period with ESG scores and the lack of ESG scores for some conventional funds, further research will be adopted by calculating ESG fund scores from the ESG scores of portfolio holdings.

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Table 1. Summary statistics

Table 1 is divided into four panels. Panels A, B, and C show the mean, standard deviation, minimum and maximum of the variables for all conventional funds (panel A), the matched conventional funds (panel B), and SRI funds (panel C) from January 2016 to December 2018. Panel D shows a comparative of the variables (mean) for all pension funds analysed (SRI and matched), the matched conventional funds, and the SRI funds. The last column of this panel shows the difference between the matched conventional funds and the SRI funds. The significance levels of the difference in means are based on t-tests. *, **, *** show significance at the 10%, 5%, and 1% level, respectively.

Panel A: All conventional funds (221 funds)				
	Mean	Std. Dev.	Min	Max
Return (monthly)	0.0037	0.0316	-0.1463	0.1385
Volatility (monthly)	0.0072	0.0037	0.0000	0.0388
Alpha (monthly)	0.0003	0.0012	-0.0051	0.0065
Size (monthly, in EUR)	$3.24*10^8$	$2.21*10^9$	$1.01*10^3$	$3.58*10^{10}$
Fund age (months)	142.9922	145.0375	0.1000	1447.8330
Fund flows (monthly)	-0.0315	0.1749	-1.0258	0.4184
Turnover ratio (annual)	0.8287	0.8864	-0.9054	4.6178
Expense ratio (annual)	0.0121	0.0131	0.0005	0.1039
Team dummy	0.3997	0.4899	0.0000	1.0000
Manager experience (months)	7.8289	5.1525	0.0028	27.9861
ESG fund score	0.5583	0.0362	0.4166	0.6204
Environmental score	0.5536	0.0272	0.4480	0.6004
Social fund score	0.5639	0.0234	0.4865	0.6057
Governance fund score	0.5575	0.0228	0.4829	0.6178
Panel B: Matched conventional funds (20 funds)				
Return (monthly)	0.0033	0.0321	-0.1176	0.0998
Volatility (monthly)	0.0073	0.0035	0.0022	0.0283
Alpha (monthly)	0.0003	0.0012	-0.0039	0.0041
Size (monthly, in EUR)	$1.56*10^8$	$3.82*10^8$	$7.48*10^4$	$1.54*10^9$
Fund age (months)	145.0665	114.3811	0.1000	522.5333
Fund flows (monthly)	-0.0239	0.1346	-1.0258	0.4086
Turnover ratio (annual)	0.6297	0.7772	0.0239	2.4607
Expense ratio (annual)	0.0091	0.0034	0.0035	0.0125
Team dummy	0.3310	0.4710	0.0000	1.0000
Manager experience (months)	113.6684	5.3850	0.0028	21.8167
ESG fund score	0.5598	0.0290	0.4989	0.6192
Environmental score	0.5563	0.0205	0.5265	0.5997
Social fund score	0.5700	0.0202	0.5202	0.6057
Governance fund score	0.5582	0.0178	0.5245	0.6034
Panel C: SRI funds (22 funds)				
Return (monthly)	0.0023	0.0317	-0.1095	0.0991
Volatility (monthly)	0.0073	0.0038	0.0023	0.0298
Alpha (monthly)	0.0003	0.0011	-0.0042	0.0039
Size (monthly, in EUR)	$1.34*10^8$	$2.49*10^8$	$7.61*10^4$	$9.94*10^8$
Fund age (months)	163.0209	76.1032	55.6667	420.0667
Fund flows (monthly)	-0.0320	0.1816	-1.0258	0.4184
Turnover ratio (annual)	0.7940	0.5943	-0.0509	2.2253
Expense ratio (annual)	0.0134	0.0092	0.0036	0.0377
Team dummy	0.3559	0.4791	0.0000	1.0000
Manager experience (months)	104.1129	4.6793	0.0778	28.9195
ESG fund score	0.5613	0.0278	0.4999	0.6178
Environmental fund score	0.5657	0.0205	0.5295	0.5994
Social fund score	0.5641	0.0191	0.5253	0.5991
Governance fund score	0.5593	0.0195	0.5209	0.5975

Panel D: Sample comparative	All funds analysed	Matched conventional	SRI funds	Difference Matched-SRI funds
Return (monthly)	0.0027	0.0033	0.0023	0.0009
Volatility (monthly)	0.0073	0.0073	0.0073	0.0000
Alpha (monthly)	0.0003	0.0003	0.0003	0.0000
Size (monthly, in EUR)	$1.43*10^8$	$1.56*10^8$	$1.34*10^8$	$2.20*10^7$
Fund age (months)	154.4712	145.0665	163.0209	-17.9544***
Fund flows (monthly)	-0.0283	-0.0239	-0.032	0.0081
Turnover ratio (annual)	0.7119	0.6297	0.7940	-0.16425***
Expense ratio (annual)	0.0115	0.0091	0.0134	-0.0043***
Team dummy	0.3451	0.3310	0.3559	-0.0249
Manager experience (months)	108.2462	113.6684	104.1129	9.5554***
ESG fund score	0.5605	0.5598	0.5613	-0.0015
Environmental score	0.5612	0.5563	0.5657	-0.0094*
Social fund score	0.5669	0.5700	0.5641	0.006*
Governance fund score	0.5588	0.5582	0.5593	-0.0011
Number of funds	44	20	22	

Table 2. The influence of managerial characteristics on the ESG fund level.

Table 2 shows the results of model (1) for all funds analysed (panel A), the matched conventional funds (panel B), and the SRI funds (panel C). All models are estimated with OLS, monthly-time variables, and robust standard errors. T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

	Panel A: Matched conventional and SRI funds				Panel B: Matched conventional funds				Panel C: SRI funds			
	ESG	Environment	Social	Governance	ESG	E	S	G	ESG	E	S	G
SRI dummy	0.005*	0.0212***	-0.007***	-0.0015								
	(1.66)	(11.55)	(-4.49)	(-0.64)								
Alpha	1.1149	0.2885	0.4864	0.1857	-0.4401	0.0737	-0.1668	-0.0994	-1.4616***	-1.1706***	-0.4986	-0.747*
	(0.86)	(0.35)	(0.71)	(0.19)	(-0.41)	(0.15)	(-0.29)	(-0.17)	(-3.36)	(-3.72)	(-1.43)	(-1.82)
Return	0.1389**	0.0694*	0.0675*	0.0896**	-0.0091	0.0114	-0.0043	0.0074	-0.0522**	-0.0456***	-0.023	-0.0152
	(2.03)	(1.78)	(1.71)	(2.01)	(-0.21)	(0.64)	(-0.18)	(0.33)	(-2.54)	(-3.7)	(-1.43)	(-0.82)
Volatility	-0.4142	-1.363***	-0.8348**	-1.2488***	-0.1454	-0.1021	-0.1531	-0.0599	-0.1749	-0.1219	-0.1446	-0.2547**
	(-0.53)	(-3.48)	(-2.18)	(-2.62)	(-0.43)	(-0.76)	(-0.77)	(-0.36)	(-1.29)	(-1.46)	(-1.31)	(-2.02)
Size	0.0029***	0.0039***	0.0023***	-0.0011**	0.0085***	-0.0008*	0.0044***	0.0053***	-0.005***	0.0015**	-0.0009	-0.0134***
	(5.01)	(10.92)	(7.26)	(-2.2)	(10.44)	(-1.96)	(8.23)	(12.19)	(-6.26)	(2.21)	(-1.41)	(-16.5)
Fund age	-0.0101***	-0.0043***	0.0009	-0.003**	-0.0078***	0.0049***	0.0032***	-0.0044***	-0.0535***	-0.0391***	-0.0211***	-0.0432***
	(-4.6)	(-3.83)	(0.83)	(-2.04)	(-4.72)	(8.16)	(2.9)	(-5.64)	(-21.62)	(-17.35)	(-12.78)	(-16.54)
Turnover	0.0141***	0.0003	0.0102***	0.0037***	0.0257***	-0.0203***	0.0098***	0.0068***	0.0228***	0.0046***	0.014***	0.0246***
	(7.08)	(0.24)	(8.95)	(2.66)	(6.17)	(-8.71)	(3.17)	(2.86)	(12.1)	(2.79)	(9.13)	(12.49)
Expense	1.6456***	1.6954***	2.03***	-0.6512***	-0.0813	0.1921	1.3537***	-1.1029***	0.9965***	1.4033***	1.671***	-3.3027***
	(8.45)	(12.86)	(17.92)	(-6.41)	(-0.35)	(1.47)	(8.56)	(-9.03)	(4.06)	(6.11)	(9.1)	(-15.89)
Flows	0.0088	-0.0007	0.004	0.0052	0.0254	0.0061	0.0089	0.0121	-0.003	-0.0063	-0.0009	0.0011
	(0.81)	(-0.1)	(0.74)	(0.63)	(1.53)	(0.84)	(0.94)	(1.41)	(-0.72)	(-1.37)	(-0.23)	(0.21)
Team	0.0007	-0.0139***	0.0031***	0.0146***	-0.0057*	-0.0042***	-0.0049***	0.0062***	-0.0115***	-0.02***	0.0014	0.0103***
	(0.35)	(-11.28)	(2.97)	(11.97)	(-1.71)	(-2.64)	(-2.71)	(2.97)	(-8.48)	(-22.98)	(1.53)	(6.97)
Man_exper	-0.0013	-0.0086***	-0.0035***	0.007***	0.0032*	-0.0036***	-0.0037***	0.005***	-0.0181***	-0.0198***	-0.01***	0.0195***
	(-0.65)	(-6.89)	(-2.86)	(6.6)	(1.91)	(-3.25)	(-2.83)	(5.55)	(-6.69)	(-6.91)	(-4.32)	(6.46)
Man_change	0.0081**	-0.0055	0.008***	0.0111*	-0.0051*	-0.0008	-0.0002	-0.0008	0.0095***	0.0012	0.0084***	-0.0001
	(1.98)	(-1.16)	(3.36)	(1.92)	(-1.79)	(-0.77)	(-0.09)	(-0.4)	(5.69)	(1.29)	(6.05)	(-0.1)
Constant	0.5315***	0.519***	0.5153***	0.5679***	0.4321***	0.5479***	0.4763***	0.4761***	0.9076***	0.7695***	0.6766***	0.9117***
	(31.61)	(58.02)	(60.73)	(53.07)	(37.12)	(96.77)	(73.18)	(70.89)	(50.55)	(47.95)	(56)	(49.08)
R^2	0.2794	0.4401	0.5273	0.163	0.2418	0.2744	0.243	0.53	0.8686	0.8783	0.8633	0.6723
No obs	1000	1000	1000	1000	480	480	480	480	520	520	520	520

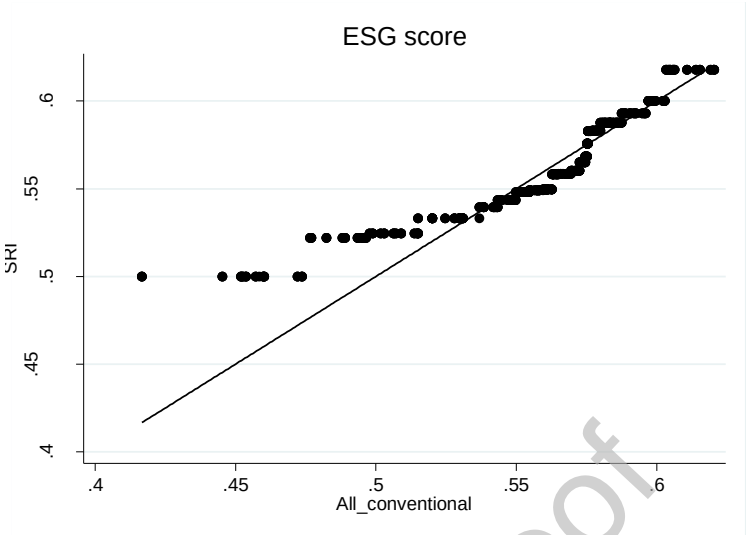
Table 3. The influence of SRI nature and ESG fund scores on fund results.

Table 3 shows the results of models (2) and (3) in panels A and B, respectively, in which alpha, return and flows are the dependent variables of the models (columns 1-3). All models are estimated with OLS, monthly-time variables, and robust standard errors. T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

	Panel A: Model (2) results				Panel B: Model (3) results		
	Alpha	Return	Flows		Alpha	Return	Flows
SRI dummy	0.0002**	0.0011	0.0172	SRI dummy	0.0005*	0.0064	0.0017
	(2.02)	(0.63)	-0.98		(1.88)	(1.09)	(0.07)
ESG_score	0.0012	0.0625**	0.4186*	Env_score	-0.0053	-0.0655	0.2985*
	(0.71)	(2.05)	-1.66		(-0.82)	(-0.37)	(1.66)
				Social_score	0.0059	0.0206	0.2187
					(0.71)	(0.09)	(0.21)
				Gov_score	-0.0024	0.0888	0.0554
					(-0.46)	(0.56)	(0.11)
Volatility	0.0126	-0.6514*	1.6581	Volatility	-0.0667***	1.6222***	1.8512
	(0.51)	(-1.68)	-1.01		(-5.38)	(6.03)	(1.09)
Size	0.0001**	0.0008	0.0062	Size	0.0001**	0.0025**	0.2471*
	(2.19)	(1.56)	-1.2		(2.27)	(2.02)	(1.82)
Fund age	0.0001	0.0038***	-0.0074	Fund age	0	-0.0006	0.0089
	(1.49)	(2.59)	(-0.58)		(-0.45)	(-0.21)	(0.55)
Turnover	-0.0001	-0.0008	-0.012	Turnover	-0.0001	-0.0017	-0.0166
	(-1.64)	(-0.57)	(-0.92)		(-0.9)	(-0.47)	(-1.2)
Expense_ratio	0.0091	0.0613	3.2376	Expense	0.0153	0.6248	4.5036
	(1.01)	(0.32)	-1.63		(0.73)	(1.02)	(1.43)
Flows	-0.0005**	-0.0014	-0.553**	Flows	-0.0015***	-0.0314*	-0.5447**
	(-2.06)	(-0.21)	(-2.55)		(-2.89)	(-1.82)	(-2.54)
Team	-0.0001	-0.0009	-0.0372**	Team	-0.0002	-0.0076	-0.0495**
	(-1.01)	(-0.62)	(-1.99)		(-1.26)	(-1.39)	(-2.25)
Man_exp	-0.0002**	-0.0011	-0.0397**	Man_exp	-0.0003**	-0.0056	-0.008**
	(-2.24)	(-0.69)	(-2.48)		(-2.11)	(-1.48)	(-2.44)
Man_change	-0.0009***	-0.0069	-0.0636	Man_change	-0.0007	-0.0137	-0.0561
	(-3.64)	(-0.55)	(-1.57)		(-1.45)	(-0.38)	(-1.3)
Constant	-0.0015	-0.0386*	-0.2448	Constant	0.0008	-0.0555	-0.3203
	(-1.55)	(-1.94)	(-1.38)		(0.32)	(-0.89)	(-1)
R^2	0.5881	0.8111	0.0357	R^2	0.067	0.0498	0.0505
No obs	997	993	993	No obs	993	993	993

Graph 1. QQ-plots for the ESG score of SRI and conventional funds.

Graph 1.A. SRI and all conventional funds



Graph 1.B. SRI and matched conventional funds