Are Socially Responsible Impact Funds Viable?

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Question: Are socially responsible funds viable despite free-riding?

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Exclusion: attractive to "warm-glow" investors: not holding dirty firms feels good in itself

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$\Rightarrow$ Hard sell to small investors & fragile basis for sector that needs to scale

How funds describe themselves

	# funds	Financial objectives only	Also state impact
Europe (ESG, Article 8/9)	5,504	**84%**	8.9%
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We tell very different story: impact funds can exist with **no trade-off at all** once we stop looking at them in isolation.

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A premium of *any* size finances engagement at *some* positive clean-up cost but the budget for engagement is only as large as the exclusion discount

Who is the “impact fund”?

Engagement interpretation

The fund overweights a dirty firm, pays to clean it up, and resells it once it is investable for the exclusion sector.

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Active-(ESG) fund interpretation

Active (ESG) fund pays **information cost** to identify green-transition leaders and **overweights** them. The fund family's **stewardship unit** then supports their transition plans through proxy voting. The fund resells them at a premium once they become investable.

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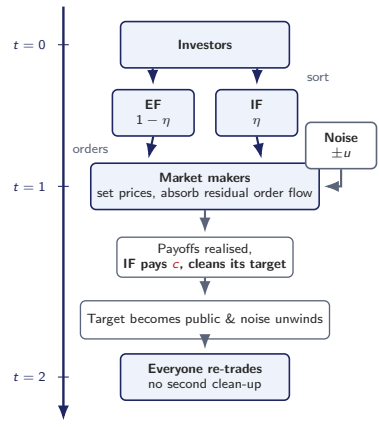

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Mandates maximize members' expected utility (competition between fund families)

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⇒ Pins down all trades except for trades based on private information of fund

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Not excludable

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Excludable

IF's **tilt** towards its secret target

Investors don't know the target $\rightarrow$ they cannot copy tilt

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$\Rightarrow$ More exclusion does not necessarily imply a larger investability premium!

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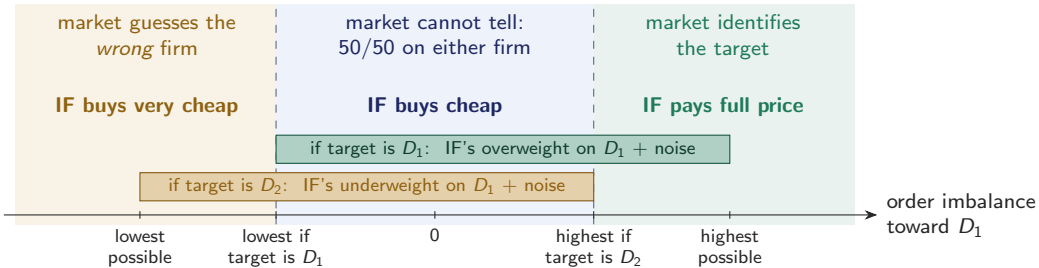

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A costlier clean-up needs a larger impact fund & IF investors do not sacrifice returns

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Warm glow and finite financial capital create the premium & noise allows IF to profit

A larger premium makes the impact sector more efficient

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A **large** impact sector is not a sign of large impact

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Result. Endogenously formed IF may clean up, while a proprietary blockholder does not.

Concluding remarks

Model describes **landscape** of voluntarily-formed sustainable funds

Exclusion and engagement are complements. IFs make dirty assets investable and exclusion allows impact to be financially profitable

Funds that look like rivals are living in symbiosis

Despite a technological trade-off (engagement is costly), there is no trade-off in fund returns

Limits: the budget for engagement is only as large as the exclusion discount

Symbiosis in practice can also be fund family running an exclusion fund and an active (ESG) fund with a shared stewardship unit

Back-up

Related literature

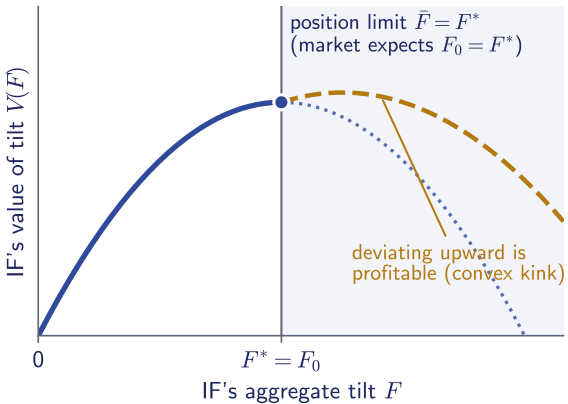
Impact funds and mandates: Oehmke & Opp (2025); Landier & Lovo (2025).
Impact needs a return sacrifice or impact preferences that rule out free-riding. **Here**: small, uncoordinated investors; warm glow attaches to *assets held*; free-riding always possible.

Exclusion vs. engagement: Heinkel, Kraus & Zechner (2001); Broccardo, Hart & Zingales (2022); Dangl, Halling, Yu & Zechner (2025).
Usually alternatives. **Here**: complements.

Takeovers and clean-up: Kyle & Vila (1991); Gollier & Pouget (2022); Bond & Levit (2026); Gupta, Kopytov & Starmans (2026).
Here: clean-up does not raise cash flows; the gain comes indirectly, from exclusion; the fund is formed endogenously.

Free-riding in sustainable investing: Hakenes & Schliephake (2024); Kaufman, Andre & Kőszegi (2024); Gryglewicz, Mayer & Morellec (2025); Malenko, Malenko & Tsoy (2025)

How much to tilt? Trade-off and position limit



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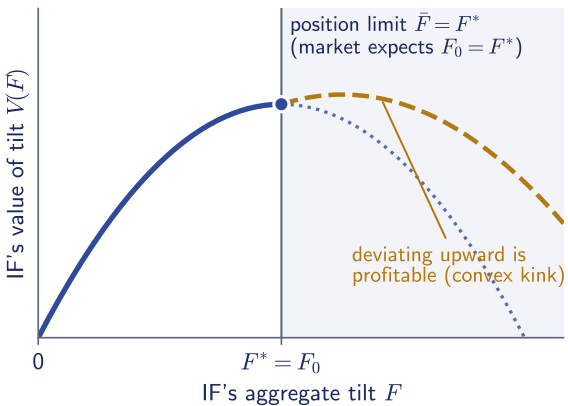

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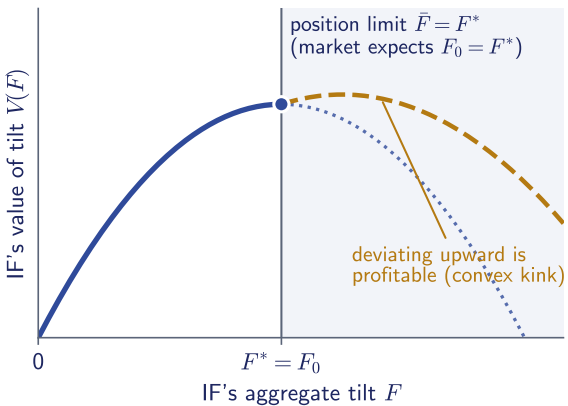

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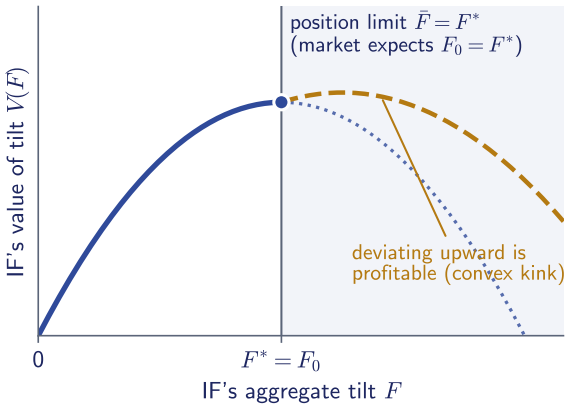

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Aggregate rent $\bar{V}(\eta)$: increasing and concave in fund size η

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Two dates $t \in \{1, 2\}$, no discounting, risk-free rate 0

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All cash flows and externalities independent across assets and dates

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Unit mass of small investors, CARA preference with risk tolerance ρ, approximation of mixture of normals

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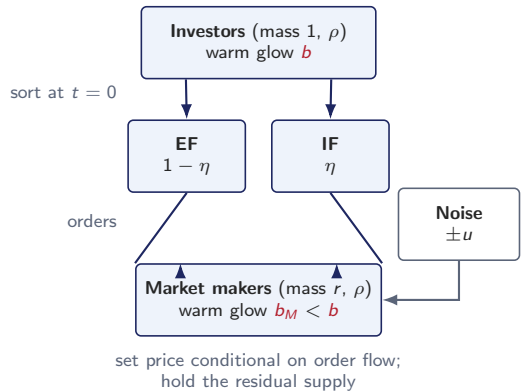

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$x_C \equiv \frac{\rho}{\rho + r\rho} s_i$: investor's market-portfolio weight

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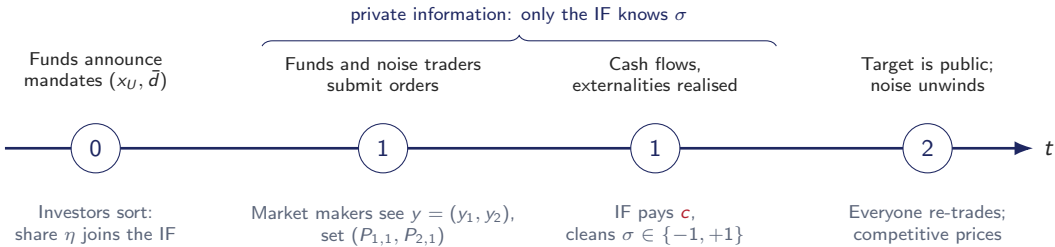
Impact fund (IF) commits to

- privately pick one dirty asset $\sigma \in \{-1, +1\}$ to clean at $t = 1$, at cost $c > 0$ shared equally among members
- hold at most $x_U + \bar{d}$ of the target and at least $x_U - \bar{d}$ of the other dirty asset (*position limit*)
- act as an EF at $t = 2$

Clean-up removes the target's *second*-period externality

BACK-UP

Timing



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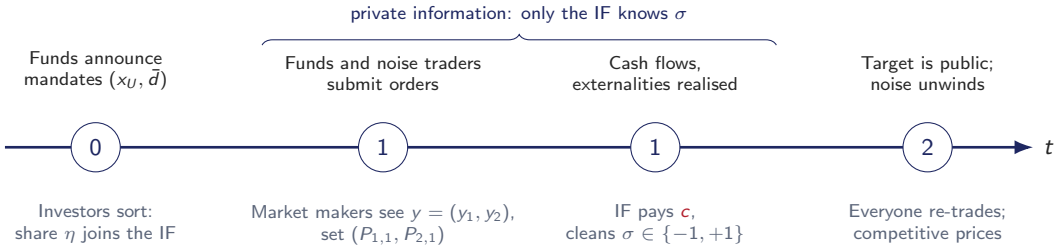

Order flow in the dirty assets:

$$y_i = \begin{cases} x_u + \sigma F + u, & i = 1, \\ x_u - \sigma F - u, & i = 2, \end{cases}$$

where $F \equiv \eta d$ is the IF's aggregate tilt.

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Exception: trades based on information investors lack

Only the secret tilt is the fund's own choice

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Period 2: Exclusion creates an investability premium

Cleaned asset does not generate externality: Investors hold the market weight x_C

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Investability premium

$$B \equiv P_{cleaned} - P_{still\ dirty} = \underbrace{\big(\omega b + (1-\omega) b_M\big)\mu_y}_{\text{tolerance-weighted warm glow}} + \underbrace{\frac{s_D}{\rho(1+r)}\left[\omega(\sigma_D^2 + b^2\sigma_y^2) + (1-\omega)(\sigma_D^2 + b_M^2\sigma_y^2) - \sigma_D^2\right]}_{\text{externality risk premium}} > 0,$$

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where $\omega \equiv \dfrac{\sigma_D^2 + b_M^2\sigma_y^2}{(1+r)\sigma_D^2 + (b_M^2 + rb^2)\sigma_y^2}$.

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ξ sufficient statistic for market makers' learning: indicates towards which asset the IF tilted and cleans up

Market makers' inference from order flow

Suppose IF mixes $50 - 50$ which dirty firm to clean up

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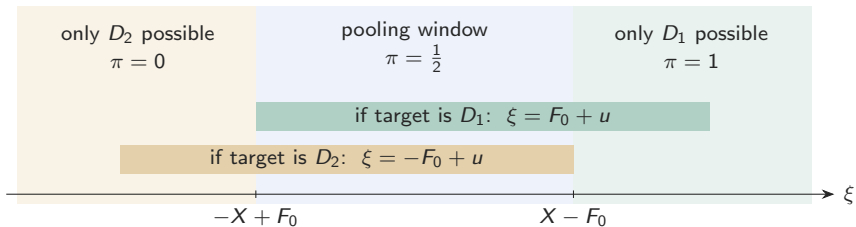
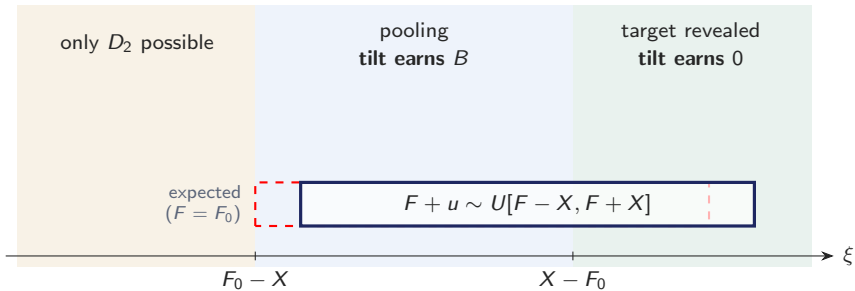


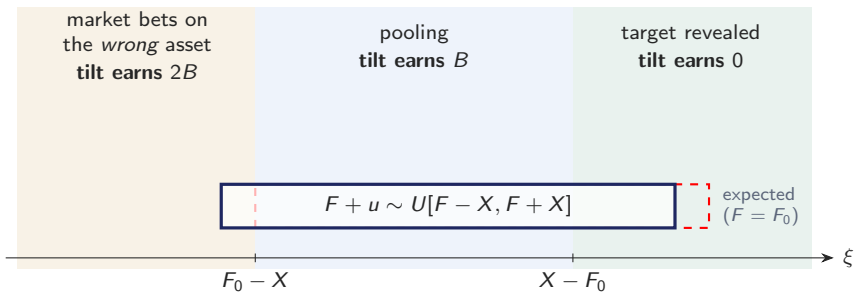
Increasing the tilt above F_0

Assume the IF chooses $F > F_0$

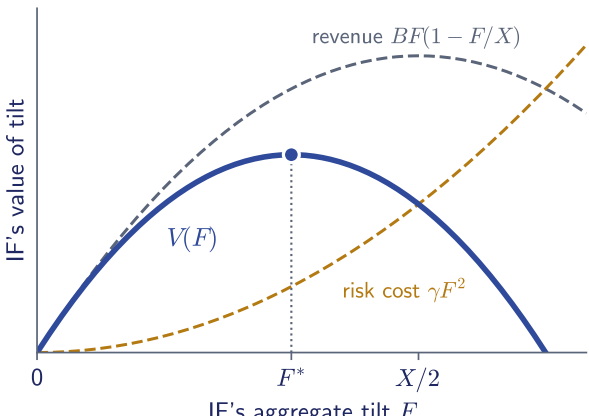


Shrinking the tilt below F_0

Assume the IF chooses $F < F_0$



The IF's objective below the expected tilt: $F < F_0$



$$V(F) = \underbrace{BF\left(1-\tfrac{F}{X}\right)}_{\text{revenue}} - \underbrace{\gamma F^2}_{\text{risk cost}}$$

Hump-shape of revenue: Bigger tilt earns B on more units but is revealed more often

Risk cost: γF^2 pulls the optimum down

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Denote $\bar{V}(\eta)$ the IF's aggregate rent from its tilt when the fund has size η

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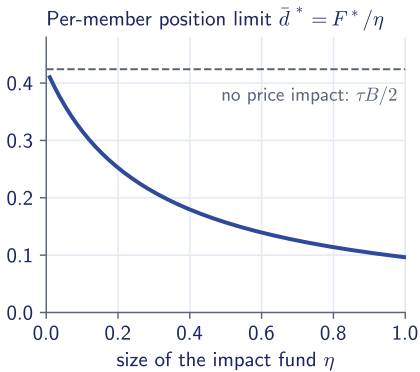
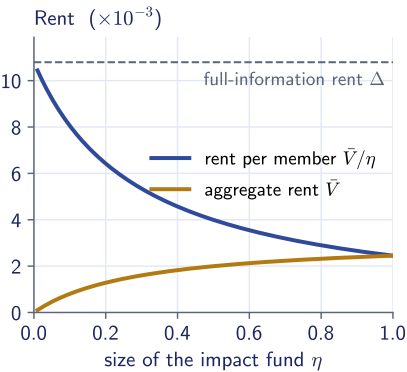
A costlier clean-up needs a larger impact fund

Bigger funds: tighter per-member limits, lower rent per member

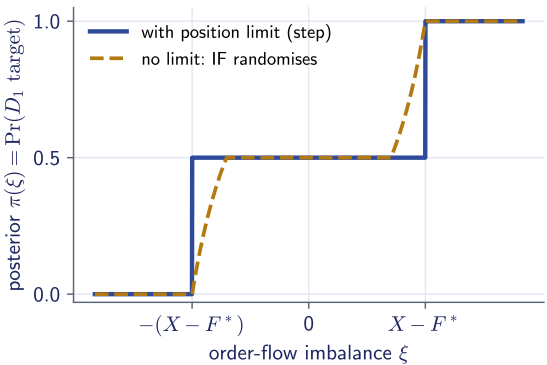




The market sees the *aggregate* tilt: the per-member limit shrinks with η.

Aggregate rent $\bar{V}(\eta)$ rises, but at a decreasing rate — the key to fund size.

The game without tilt limit



Without a limit the IF **randomises** its tilt on $[F_L, F_H]$, $F_L = F^*$.

The posterior rises smoothly instead of jumping.

Rent: $\bar{V} = BX/(4 + 2a)$, $a \equiv 2X\gamma/B$ — **identical**.

Clean-up, sorting and size are unchanged.

An all-in equilibrium: impact can even outperform

Proposition 7

An equilibrium in which *every* investor joins the impact fund ($\eta = 1$) exists iff $c \leq \bar{c}$.

Rent $\bar{V}(1) = \bar{c} > c$: members earn **strictly more** than in an exclusion fund.

Every investor prefers it to the coexistence equilibrium.

Same economics: needs warm glow and noise; same $\bar{c}$ and comparative statics.

$\eta^* =$ the **minimal scale** of impact capital that covers the cost.

The approximation

Market makers' posterior over the binary target makes payoffs a mixture of normals.

We replace the exact CARA certainty equivalent by the posterior-weighted average of certainty equivalents $\Rightarrow$ linear pricing rule.

Valid when B and $2X\Sigma_M/\rho_M$ are small relative to $\sqrt{\Sigma}$.

Used in: pricing rule, the IF's objective, sorting, the proprietary trader's problem.

Appendix recomputes the equilibrium with **exact** CARA objectives: results essentially unchanged.

Numerical illustration

r	b_M	x_U	B	Δ	Λ ($\eta = .3$)	$\bar{c}$	η^* ($c = .0015$)
0.5	0.5	0.433	0.0493	0.0101	1.39	0.0018	0.473
0.5	1	0.667	0.0633	0.0167	1.83	0.0024	0.199
1	0.25	0.037	0.0322	0.0043	0.74	0.0013	—
1	0.5	0.190	0.0414	0.0072	0.86	0.0018	0.530
1	0.75	0.348	0.0509	0.0108	1.02	0.0025	0.264
1	1	0.500	0.0600	0.0150	1.20	0.0030	0.167
2	1	0.333	0.0567	0.0134	0.87	0.0034	0.166

$\rho = s_D = b = 1$, $\sigma_D^2 = .04$, $\sigma_y^2 = .02$, $\mu_y = .05$, $X = .5$. "—": $c > \bar{c}$, no impact sector.

What if cleaning up lowers cash flows?

We modelled clean-up as pure externality reduction (cash flows unchanged).

If clean-up *also* lowered future cash flows, the mechanism still works — **as long as** a cleaned-up, investable firm still trades *above* a shunned dirty one.

Two offsetting forces: a lower-cash-flow effect (shrinks the gap) versus the investability / lost-disutility effect (widens it). The latter can dominate.

BACK-UP

The fund-objective evidence in more detail

Europe. 5,680 Article 8/9 funds. 84.3% state *only* financial objectives; just 8.8% also state an impact objective.

United States. 191 ESG funds. 95.8% state *only* financial objectives; just 2.1% also state an impact objective.

Ranking of stated objectives (both regions): capital growth, total return, beating a benchmark, risk reduction and income come first; ESG/carbon *restrictions* (exclusion) next; explicit *impact* objectives last.

Descriptive, prospectus-level evidence on *stated* goals.