

The stock market and corporate consequences of ethical exclusions by the world's largest fund

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Research issue

- ESG - Environmental, Social and Governance aspects of corporate decisions.
- Generally – Does ESG affect companies?
 - Cost of capital/stock return?
 - Pecuniary view (The BlackRock Argument)
Firms preparing for the new sustainable economy
→ will do better (doing well by doing good).
(Mispricing argument)
 - Non-pecuniary view.
Investors care about sustainability in addition to returns.
→ Sustainable firms have lower cost of capital.
 - Company behavior?
- Specifically - Institutional investors unwilling to hold “bad” ESG firms.
 - Consequences of exclusions

Research issue ctd

Our research: The exclusions by Norway's GPF "The Oil Fund)" – Huge Sovereign Wealth Fund.

- Exclusions ethically motivated – “worst offenders”
- Investigate:
 - The return of the portfolio of excluded firms
 - Lead to estimate of Green Return Premium
 - Stock price reactions to announced exclusions.
 - Firms reactions to exclusions.
Do they attempt to reverse exclusion?
 - If the exclusion is reversed,
what happens to returns going forward?

Our Analysis – Preview

From excluded portfolio return to green return premium

- Is there a return premium (alpha) on the portfolio of excluded firms?
→ **Yes, Alpha = 5%**
- Implication: Premium on being ethical (“Green Return Premium”)
→ $\approx -5\%$

Does it pay to get exclusion revoked?

- What happens to “newly ethical” firms? (after exclusion revoked)
Alpha → 0

Stock Price Reactions to exclusions by “Oil Fund”

- **Muted**

Do firms react to exclusions?

- → **Only 14% act to get it reversed**

Literature etc

Modelling differences in cost of capital due to ESG

- The pecuniary view.
 - Stock prices do not fully reflect future ESG consequences (e.g. climate).
 - Short-termism (Stein, 1989)
- The non-pecuniary view
 - Equilibrium models – tradeoff ESG/Cost of Capital
 - Pástor et al. (2021) Pedersen et al. (2021)
 - Question magnitude exclusion effects (Berk and van Binsbergen, 2024)
 - ESG ranking uncertainty muddle tradeoff (Avramov et al., 2022)

Estimates of Green Return Premium

- Evidence support non-pecuniary view (Green Return Premium < 0)
Examples (estimated return difference)
 - Sin (Hong and Kacperczyk, 2009) (-3.5%)
 - Environment (Chava, 2014) (-0.7% to -1.4%)
 - Green vs Brown (Pástor, Stambaugh, and Taylor, 2022) (-1.4%)

Literature ctd – The magnitude of the green premium

Cost of improving ESG argument

The return difference is a tradeoff between:

- Cost of removing reasons for exclusion (becoming more ethical)
- Benefits from lower cost of capital.

Example from (Hong, Wang, and Yang, 2023) (decarbonization):

Equilibrium return difference (green premium) = $-m/q$,

(m – cost of mitigation per unit of production, q – price of firm capital.

→ If green premium reflects costs of mitigation,
green return premium can be large

Arbitrage type counterargument (Berk and van Binsbergen, 2024)

Investors not concerned with ESG jump on return premium

→ Green premium should be small in magnitude.

Developing hypothesis I – “Unethical” premium

I: Estimating “unethical” premium

Assumption: Work of Ethical Council *identifies* stocks likely to be excluded by many institutional investors.

→ Sample of excluded stocks can be used to estimate return difference excluded and non-excluded stocks.

Hypothesis: Positive excess return (alpha) on the portfolio of excluded stocks.

Developing hypothesis II – “Newly ethical firms”

II. Portfolio of newly ethical firms

By acting to remove cause of exclusions, firms can get exclusions revoked.

Assumption: Work of Ethical Council *identifies* companies that have actually *acted* to remove the cause of exclusion

(No Greenwashing, please)

Question: Do returns going forward reflect the new “ethical” classification?

Hypothesis: Alpha of “newly ethical” portfolio $\rightarrow 0$.

Developing hypothesis III – “Causality”

III. Do stock prices react to actions by Oil Fund?

Actions by the Oil Fund

- Before exclusion announced
 - two month period
 - need to divest holdings
 - typical ownership fraction – 1.5% → Price Impact
- Announcement of exclusion
 - To what extent is this a surprise?

Developing hypothesis III – “Causality” – ctd

Suppose market opinion of likelihood of widespread exclusions of stock is updated.

Hypothesis

Permanent negative impact on stock prices associated with Oil Fund actions

- 1 In two month period leading up to announcement
- 2 At announcement.

Operationalized with event studies. Test for a permanent negative CAR

- Day before exclusion is announced.
- Week after exclusion is announced.

Developing hypothesis IV – Corporate Reactions

IV. Company reaction to divestment

Announced exclusion: Investors realize this is a “bad ESG” company, demand higher return/cost of capital?

This goes both ways → company can lower cost of capital if they “get off” blacklist.

Incentive for firms to act to reverse exclusion.

→ Investigate determinants of firm's decisions to reverse exclusion.

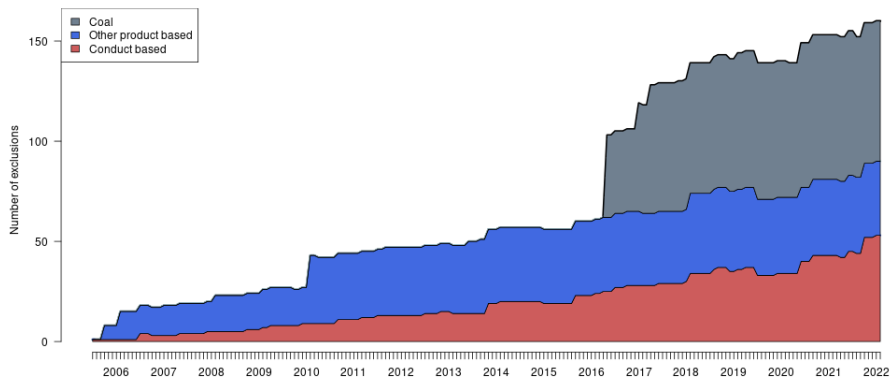
Norway's GPF (The Oil Fund)

- World's largest SWF. Market value of equity 1 trillion USD at the end of 2021.
- One of the most transparent such funds, model for many institutional investors.
- Near index fund.
- Exclusions handled by external "Council of Ethics", established 2004.
 - 2004–2021: 189 firms in total excluded, shorter or longer time periods.
 - At year end 2021, fund invested in \approx 10 thousand companies
 - \rightarrow exclusions are truly exceptional

Norway's GPFG – The reasons for exclusions

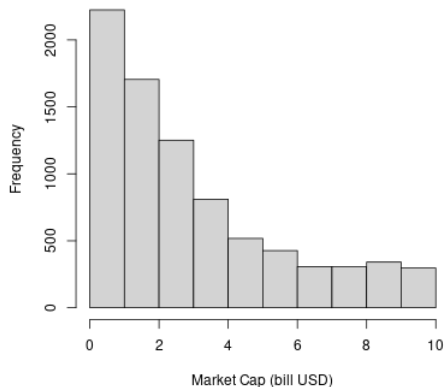
Exclusion reasons	Events
Conduct	67
Environmental damage	28
Individuals' rights in war or conflict	12
Violation of human rights	12
Environmental damage / Violation of human rights	4
Violation of ethical norms	5
Greenhouse gas emissions	4
Gross corruption	2
Product	122
Coal or coal-based energy	75
Weapons	26
Tobacco	21

Norway's GPFG – The number of exclusions

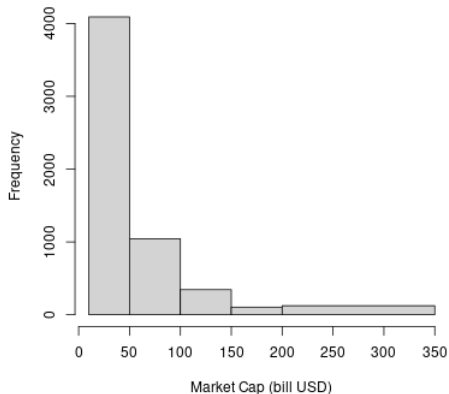


Norway's GPFG – Size (market cap) distribution of excluded firms

B.1: Mkt Cap \leq 10 bill USD

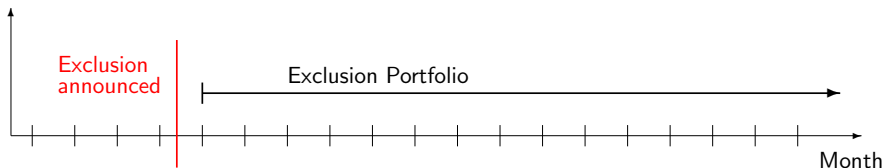


B.2: Mkt Cap $>$ 10 bill USD

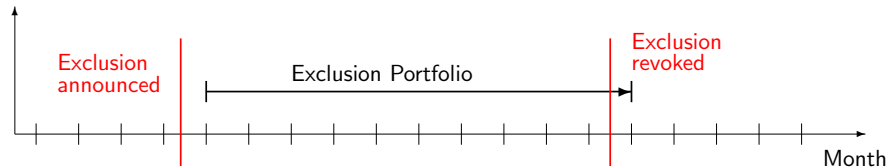


Analysis I: Constructing the Exclusion Portfolio

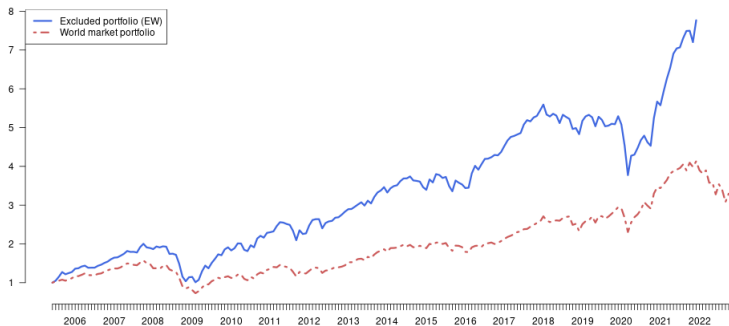
- Firms enter portfolio month after exclusion



- If exclusion revoked, firms leave exclusion portfolio next month.



Analysis I: Value evolution – exclusion portfolio vs market



Cumulative returns of equally weighted exclusion and global market portfolios

Analysis I: Estimation of “unethical” portfolio return

Brown return premium (return premium for excluded firms) estimated as

- Alpha (the risk-adjusted excess return) of the Excluded Portfolio.
- Estimated using: Fama-French international five factor model

$$(r_{p,t} - r_{f,t}) = \alpha + \beta(r_{m,t} - r_{f,t}) + b^{SMB}SMB_t + b^{HML}HML_t + b^{RMW}RMW_t + b^{CMA}CMA_t + \varepsilon_{p,t},$$

- This model necessary to control for business cycle effects (Bansal et al., 2021)
- (do show estimates with alternative asset pricing models)

Analysis I: Estimates of alpha for (EW) Exclusion Portfolio

	(1)	(2)	(3)	(4)
Alpha	0.004*** (0.002)	0.004** (0.002)	0.004*** (0.002)	0.005*** (0.002)
Rm-Rf	0.961*** (0.040)	1.021*** (0.049)	0.993*** (0.042)	0.962*** (0.049)
SMB	0.173 (0.115)		0.178 (0.115)	0.177 (0.123)
HML	0.467*** (0.115)		0.310*** (0.074)	0.224*** (0.089)
RMW	0.155 (0.156)			
CMA	-0.257 (0.233)			
WML				-0.138*** (0.076)
Annualized Alphas(percent)	5.170	4.420	5.220	5.980
Adj. R ²	0.809	0.788	0.808	0.813

Analysis I: From alpha to green return premium

- Alpha: $> 5\%$ in annual terms — economically and statistically significant
- Finding robust to
 - asset pricing model
 - weighting scheme (equal, value weighted)
 - sub-portfolios: reason for exclusion, country (US).

Conclude:

The alpha is the premium on unethical excluded firms.

The green return premium then the negative of this.

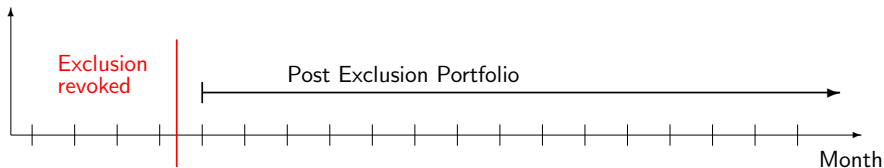
→ We estimate a (negative) green premium of $\approx -5\%$.

Analysis I: Green premium estimates

- The green premium is negative, in line with
 - a non-pecuniary explanation,
 - the majority of estimates in the literature.
- The point estimate of -5% is larger in magnitude than most other estimates
 - Possibly due to the sample being only the “worst offenders”

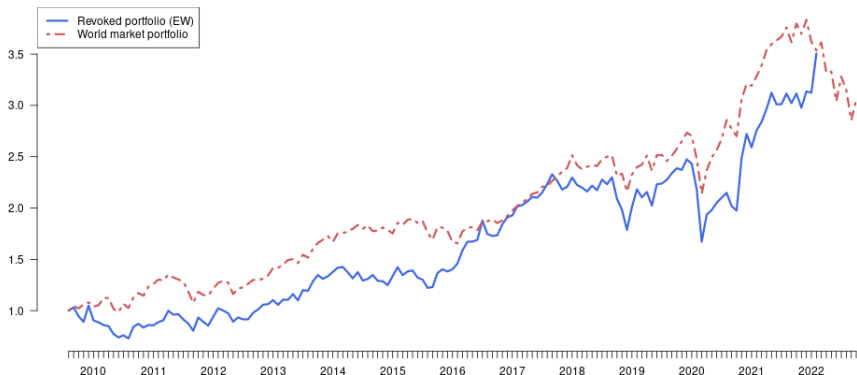
Analysis II - "Post-Exclusion" portfolio construction

Illustrating the construction of the Post-Exclusion Portfolio



Analysis II - "Post-Exclusion" portfolio

Value evolution – Post-Exclusion Portfolio vs market



Analysis II - "Post-Exclusion" portfolio

Estimates of alpha for the post-exclusion portfolio

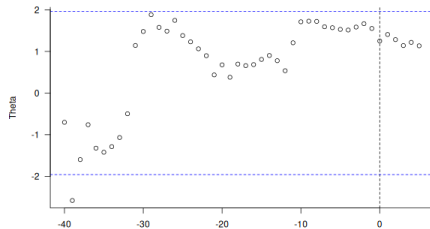
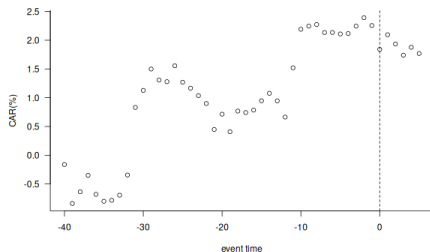
	(1)	(2)	(3)	(4)
Alpha	-0.002 (0.003)	-0.002 (0.003)	-0.001 (0.003)	0.000 (0.003)
Rm-Rf	1.080*** (0.077)	1.085*** (0.073)	1.061*** (0.073)	1.033*** (0.076)
SMB	0.335 (0.221)		0.250 (0.209)	0.245 (0.208)
HML	0.271 (0.215)		0.235* (0.123)	0.128 (0.144)
RMW	0.326 (0.292)			
CMA	0.107 (0.345)			
WML				-0.192 (0.136)
Annualized Alphas(percent)	-2.230	-1.970	-0.860	0.300
Adj. R ²	0.604	0.596	0.606	0.609
Num. obs.	149	149	149	149

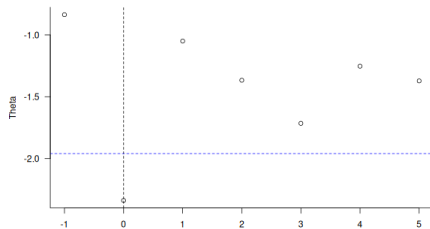
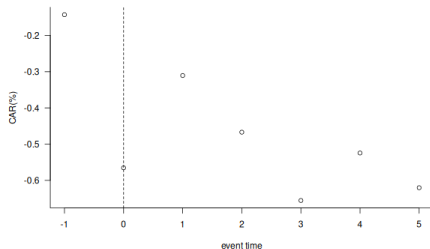
Analysis II - "Post-Exclusion" portfolio

Estimate alpha for the post-exclusion portfolio

Alpha $\rightarrow 0$

Implication: Post-exclusion – Cost of capital lower

Analysis III: Causality – event study ($CAR(-40, -1)$)

Analysis III: Causality – event study - $CAR(-1, 5)$ 

Analysis III: Causality – event studies

Summarize: Event studies do not support a causal link

→ Not even a fund of the GPFG's size can achieve much on its own.

Analysis IV - Firm's reactions to exclusion

How many firms react enough to get exclusion revoked?

If exclusion leads to higher cost of capital,
firms have incentives to get exclusion revoked.

Can they? Yes, remove cause of exclusion.

How many do?

14% act to get exclusion revoked

→ *Most firms do not react to exclusion.*

Is the threat of exclusion *really* driving extra return?

Analysis IV - Firm's reactions to exclusion

How do firms act to revoke exclusion?

Look at the few firms actually doing something about the exclusion.

How are exclusions revoked

Cause	number
Change of product mix	11
Cease of activity	7
Sale of subsidiary	4
Other reasons	6

Analysis IV - Firm's reactions to exclusion

What firms acts to revoke exclusions?

Actions to improve ESG leading to exclusion revoked

→ Endogenous action by firms

Trading off

- Cost of improving ESG (Cause of exclusion)
- Benefits from a lower cost of capital (cheaper to raise capital)

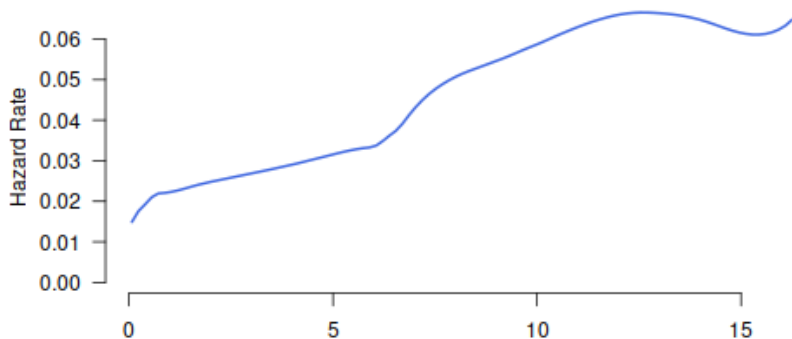
Motivate empirical investigations – proxies

- A. Costs of improving – ESG score when excluded.
- Benefits of low cost of capital –
 - B. Capital needs
(Revenue increase → Need for scale increasing investments)
 - C. Actual capital raising.

Analysis IV.A: What determines time till exclusion is revoked?

Duration (survival) analysis of exit from Exclusion Portfolio.

Instantaneous hazard curve (smoothed)



Analysis IV.A: What determines time till exclusion is revoked?

Allows estimation of how e.g. cost of improvement affects time till exit.
Estimates

- ESG score when excluded – (negative coefficient)
 - Low ESG score when entering exclusion portfolio
 - lower time till exit.

Possible interpretation: Cost of improving ESG low when starting from a low (ESG) base.

Controls:

- Conduct based exclusion dummy (easier to fix conduct based than product based reasons for exclusion)
- Firm Market Capitalization

Analysis IV.B: Benefits from cheaper cost of capital

Benefits of low cost of capital arise when firm needs to raise new external capital.

Argue: Higher likelihood of raising capital – increased benefits.

Empirically: Higher Revenue – Higher investment needs

Empirical formulation:

Probit - Model probability of having exclusions revoked as a function of

- Revenue growth – negative relation:
High revenue growth → higher probability of exclusion revoked.
- Earnings growth – no relation

Analysis IV.C: Another estimate of benefit of low cost of capital

Actual equity deals – raising new equity capital

- High probability of raising capital after exclusion revoked

	Firms raising capital	
	Number	Percent
Firms still excluded	56	37.1
Firms with exclusion revoked	11	57.9

Conclusion

- ① **Green return premium** estimate $\approx -5\%$.
 - Negative in line with most of literature
 - *Magnitude* of the return difference linked to ESG higher than most estimates, possibly due to sample of “worst offenders.”
- ② **What if firm acts to remove cause of exclusion?**
 - Alpha zero (returns lower) for portfolio of post-excluded firms.
- ③ **Stock Price reaction** to exclusion
 - Time frame when GPFG divesting: Positive CAR.
 - Announcement date: Negative one day, CAR but insignificant after a week.
 - → No permanent negative impact
- ④ **Company reactions** to exclusions
 - **Most firms:** Do not react
 - **Those (few) that revoke exclusions:**
More likely to see exclusion revoked if
 - ESG “really bad” at exclusion (cheaper to rectify?)
 - Revenue growth high (investment needs?)

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