



CENTRE FOR A
Better Britain

The overlooked costs of ESG investing

**The societal consequences of
ESG-driven investment distortions**

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Foreword

This report is a welcome contribution to the public discourse around ESG and its implications for the proper execution of fiduciary duty.

Stripping out emotion and overt political leaning, it looks to address the financial implications (primary and second order) of screening out certain investments on grounds of preference or perceived compliance.

I've witnessed first-hand how fear of bad press, reputational or career harm, or falling away from the overton window can result in fiduciaries progressing an "ESG agenda" by default, setting a higher hurdle for investments in profitable areas such as energy and raw materials – literally the building blocks of modern society.

The burgeoning industry of advisers and politically activist proponents paired with aggressive social media publicity, where divergent opinions need not apply for consideration, have led to an unfortunate climate for grown-up discussion of this and many other topics leading to largely unchallenged group-think of self-preservation, actively encouraged by successive governments and potentially to the economic cost of beneficiaries and society as a whole.

It isn't currently difficult to spot examples of these across the major news channels. Eventually, when the music stops, the questions will be asked as to who challenged these decisions, and undoubtedly the blame game will ensue.

The welcome examination of what fiduciary duty actually constitutes, and how topical and emotive issues are considered by fiduciaries is well overdue and this excellent body of work will hopefully play its part in such deliberations.

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Executive summary

This paper examines the growing role of Environmental, Social and Governance (ESG) investing in shaping how capital is allocated across the economy. It argues that prevailing ESG practices impose material, often overlooked, costs on pension savers, consumers and the wider economy; such costs are rarely disclosed or consented to.

ESG investing is frequently presented as a way to align financial returns with positive social and environmental outcomes. In practice, many ESG strategies rest on weak empirical foundations, distort the natural pattern of capital allocation, and generate unintended consequences that fall disproportionately on pension beneficiaries, ordinary households and taxpayers.

ESG can cost the average pensioner over £50,000

From first principles, shrinking the pool of assets available for investment necessarily reduces diversification and pushes portfolios away from the best available combination of risk and return. Using simulations calibrated to conservative UK equity market assumptions, this paper demonstrates that excluding just 10% of an investible universe at random produces a shortfall of c. 0.48% per annum at the optimal portfolio.

That may seem small. It is not. For the median private pension pot of a 45–54 year-old in Great Britain (£80,000, per the ONS), this compounds to an opportunity cost of over £50,000 across a 25-year investment horizon. And the real-world figure is likely larger, since the assets excluded by ESG screens are not random; screened assets are often systematically cheaper, precisely because other investors are avoiding them on an ESG-basis.

ESG is a breach of fiduciary duty

These findings raise serious questions about fiduciary duty, the legal obligation of pension trustees and fund managers to act in the best financial interests of their savers. In January 2025, a US federal court ruled that American Airlines violated this duty by investing employee retirement assets toward ESG objectives, with the judge explicitly stating that "ESG investing is not in the best financial interests of a retirement plan." English trust law precedent similarly holds that trustees must act in the best financial interests of beneficiaries, even when doing so conflicts with their own moral or political views. The "universal ownership" defence, that large investors should accept lower returns now in order to manage long-term, economy-wide risks like climate change, does not resolve this. Recent research finds that divestment has little effect on a company's ability to raise money; when one investor walks away, another simply steps in, and the company's behaviour is unchanged. All that changes is the name on the share register.

ESG 'outperformance' is a mirage

So-called "sin stocks", the assets ESG strategies routinely exclude, including traditional oil and gas companies, fossil fuel bond issuers, tobacco, alcohol and gambling firms, have historically

been priced at a 15-20% discount to comparable peers, implying c. 2% in additional annual wealth for those willing to hold them.

Claims that ESG funds reliably beat the market do not stand up to closer inspection. When researchers strip out the effect of how ESG funds happen to be tilted towards certain types of companies, typically large, profitable, established firms whose share prices have been rising, three quarters of their apparent outperformance disappears. There is little left that can be attributed to the "sustainability factor".

ESG data cannot be trusted

The data underpinning ESG strategies is itself unreliable. ESG ratings from major providers correlate with one another at only 0.38-0.71, meaning that different rating agencies frequently and fundamentally disagree on whether the same company is "sustainable" or not, making them an inherently unreliable basis for capital allocation. Recent research also documents conflicts of interest, with ESG rating agencies that license indices tending to inflate scores for firms included in those indices.

The costs of ESG to society extend well beyond portfolio returns

- Taken together, ESG imposes a "quadruple squeeze" on pension beneficiaries and citizens:
- Higher living costs. By building perceived environmental and social costs into supply chains, ESG contributes to "greenflation." This paper quantifies this through the coffee market: the shift to sustainable bean sourcing by major suppliers is adding an estimated 0.82-1.98% in annual cost inflation to the marginal bean, passed directly to consumers.
- Deindustrialisation. ESG-driven divestment and regulatory pressure risk accelerating domestic deindustrialisation. Carbon-intensive activity is frequently displaced offshore rather than eliminated.
- Lower investment returns. As described, constrained portfolios and investment in systematically more expensive, less profitable businesses erode the returns pension savers actually receive.
- Higher taxes. Fiscal burdens increase from accelerated deindustrialisation.

ESG is starving the UK defence sector at a time of rising threat

ESG frameworks systematically penalise the defence industry, often through blanket exclusions, at precisely the moment when the UK and its allies recognise the need for large-scale rearmament. Some prominent sustainable investment strategies have, until recently, treated defence firms as "controversial" or excluded them entirely on "Do No Significant Harm" grounds, alongside tobacco and coal. The result is a sector that underpins national security being denied access to capital on ideological rather than financial grounds. Where banks and asset managers refuse basic services to lawful, strategically essential businesses, the burden

falls on the UK's sovereign capability and on the taxpayer who ultimately underwrites it. A growing recognition of this contradiction is starting to emerge, with the European Commission recently moving to widen the investible universe for sustainable investors in this space, but UK frameworks have yet to catch up.

Blunt ESG metrics punish companies that do good

The paper documents a persistent and perverse disconnect between ESG labels and actual environmental outcomes. Recent ECB research finds that the carbon footprints of the "greenest" funds are comparable to those of conventional funds, and that there is no consistent evidence that they allocate more capital to firms with ambitious climate targets.

Genuine decarbonisation enablers are penalised by the mechanism that purports to support them. Linde, a global industrial gas firm, helped its clients avoid c. 96 Mt CO₂e in FY24, equivalent to roughly a quarter of the UK's annual emissions, through more efficient steel production, semiconductor manufacturing and hydrogen generation. Yet because crude ESG scoring focuses on the emissions Linde produces in its own operations rather than the far larger emissions it helps its customers avoid, it is penalised under blunt carbon-intensity frameworks. Capital is steered away from such companies that are most needed to decarbonise critical heavy industry, and towards those that simply have lighter footprints to begin with.

Naïve ESG approaches also create an uneven playing field that favours larger, better-resourced firms over smaller competitors, and incentivise greenwashing over genuine improvement.

ESG bypasses democratic consent

ESG frameworks impose contested social and political outcomes without democratic consent. Decisions about what constitutes "sustainable" behaviour are set by unelected technocrats, rating agencies and asset managers, yet they shape real economic outcomes for millions of people. The ultimate beneficiaries, the pension savers whose money is being deployed, are rarely consulted and often entirely unaware.

Our policy recommendations

- Capital allocation must return to evidence-based principles, clear fiduciary discipline, and democratic accountability. The paper proposes:
- Guiding principles for public pension schemes, including public defined benefit schemes such as the Local Government Pension Scheme (LGPS): investment strategies must be protected from politicisation, including by elected councillors who sit on pensions committees and may be tempted to advance personal political agendas through investment mandates.
- Explicit consent for non-financial objectives. Where pension strategies pursue objectives beyond financial risk and return, informed beneficiary consent should be

required, not inferred from generic sustainability statements. In public defined benefit schemes, where savers cannot opt out and taxpayers underwrite shortfalls, the scope for pursuing non-financial objectives should be particularly constrained.

- Statutory clarification of fiduciary duty. Government should provide clearer guidance that the duty of loyalty requires prioritisation of risk-adjusted returns above all other considerations. Default investment options, the funds most pension savers end up in, should be constructed around unconstrained, market-representative benchmarks, not ESG-tilted or exclusion-based indices.
- Protection for strategically essential sectors. The FCA and Pensions Regulator should jointly affirm that national security, energy security and supply-chain resilience are financially material considerations. Legislation should prohibit banks from refusing basic business services to lawfully operating companies in strategic sectors solely on ESG grounds.
- ESG disclosure reform. Reporting requirements should be refocused on information that is demonstrably relevant to financial performance, not on metrics that serve primarily as signalling. Smaller firms should not bear disproportionate compliance costs that entrench barriers to entry. Where governments want to pursue environmental or social goals, they should do so through legislation and taxation, rather than through expanding reporting mandates imposed on the investment system.
- Engagement over exclusion. Constructive engagement with companies, rather than divestment, offers a more credible route to improving corporate behaviour while retaining British ownership of strategically important businesses. Exclusionary strategies withdraw capital from firms where it is most needed to fund transition, and simply hand ownership to less scrupulous investors.
- Where investment choices are financially equivalent, trustees and asset owners should be encouraged to prefer firms that demonstrably support domestic productive capacity: local production, local employment, domestic supply chains and contribution to the UK tax base. This secondary criterion operates only when financial outcomes are otherwise comparable.

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Sustainable investing has drifted from its socially responsible roots

Sustainable investing began as ethical-based exclusion, rooted in faith and values

Sustainable investing has deep historical roots in ethical investing, whereby investors adopt ‘norms-based’ frameworks to align their decision-making with their values and moral principles. This approach, often predicated on religious principles, has sought to avoid facilitating objectionable or perceivably unethical activities by excluding or ‘screening out’ misaligned activities from investors’ investible universes.

The earliest institutions and pioneers of ethical investing often trace their roots to the Judeo-Christian tradition. Namely, this includes the Methodist Church, and the Church of England,¹ which have been evidenced to have explicitly incorporated canonical principles and theological concepts into their investment processes. Over time, such institutions not only excluded certain sectors, but also began to use their shareholdings to influence corporate behaviour via proxy voting and shareholder engagement, laying the groundwork for more activist forms of values-based investing.²

Ethical investing was succeeded by Socially Responsible Investing (SRI), whose formalisation in the 1980s is credited to Robert Zevin and Robert Schwartz.³ Zevin and Schwartz sought to pursue a “stakeholder”-conscious, rather than a conventional, strictly “shareholder”-conscious, approach to investing, that would be commonly expressed in the context of popular social justice movements (such as the anti-Vietnam war and apartheid-era South Africa campaigns).

SRI retained the exclusionary heritage of ethical investing but was framed in terms of social and civic responsibility rather than theology. Investors adopting SRI approaches typically screened out industries on account of their facilitation of social harm or incompatibility with their ethical positioning. In this sense, SRI was a way for investors to align their portfolios with their moral convictions, or social norms, and to use capital markets as an instrument for social change.

Sustainable investing, in which it is perceived that the “Sustainable Development Goals (SDGs), and the Paris Agreement on climate change make up the frontispiece of the pillars of shared sustainability”,⁴ has since evolved materially. This evolution has been driven by the growing

¹ The latter “investing with ethical criteria since 1948”. Kreander, N., McPhail, K. and Molyneaux, D., 2004. God's fund managers: A critical study of stock market investment practices of the Church of England and UK Methodists. *Accounting, Auditing & Accountability Journal*, 17(3), pp.408-441.

² The Interfaith Center [sic] on Corporate Responsibility (ICCR) states that, for over five decades, its membership of “over 300 global institutional investors representing more than \$4 trillion in managed assets – have leveraged their role as shareholders to call for improved performance on critical environmental and social concerns at some of the world’s most powerful companies”. See more: <https://www.iccr.org/>

³ Turner, D., 1993. The Social Investment Almanac: A Comprehensive Guide to Socially Responsible Investing. RQ, 33(1), pp.135-136.

⁴ Opinion of the European Economic and Social Committee on ‘Proposal for a regulation of the European Parliament and of the Council on disclosures relating to sustainable investments and sustainability risks and amending Directive (EU) 2016/2341’, COM (2018)354 final — 2018/0179 (COD).

social urgency to direct capital towards a sustainable economic transition and the policy shifts that accompany it; by increasing and differing views on what constitutes sustainable outcomes and how best to achieve them; by greater corporate transparency and the rise of standardised sustainability metrics and external assessments; and by investment managers' incentives to innovate and consolidate their share of a rapidly growing market.

This drift has been further reinforced by developments within the regulatory architecture itself. Through increasingly expansive interpretations of existing mandates, bodies such as the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA) have embedded climate and sustainability considerations more deeply into supervisory and disclosure frameworks.⁵ Mechanisms such as 'comply or explain' requirements and mandatory climate-related disclosures have contributed to a governance structure that operates with limited direct oversight. While often framed in terms of risk management, this evolution has materially influenced capital allocation practices, raising questions about the boundaries between financial materiality, regulatory discretion, and the traditional primacy of fiduciary duty.

ESG represents a divergence from sustainable investing's roots

The concept of Environmental, Social, and Governance (ESG) investing is among the more modern evolutions of sustainable investing. Juxtaposing ESG with SRI, Robert Zevin, one of the aforementioned fathers of SRI, remains supportive of the foundational principles but expresses cynicism over the shift to ESG: "it's capitalism. It always finds some way to repackage an idea so it's profitable and mass-producible, and that's going to be hard to overcome"⁶.

There are several intellectual lineages that inform the interpretation and operationalisation of ESG. Broadly, these can be categorised as:

- i. a normative orientation, that is values-driven (a direct descendant of SRI, that is more concerned with inside-out sustainability considerations), whereby investors mitigate exposure to perceivably unsustainable activities, consistent with the moral convictions and/or social justice concerns of the ultimate beneficiary, and
- ii. an instrumental orientation that operates strictly through the lens of financial materiality (that is more concerned with outside-in sustainability considerations), whereby investors consider the relevance of ESG-related risks with respect to risk and return.

While there is no single global definition, authoritative bodies and standards have tended to codify ESG such that it leans strongly toward the financial materiality definition. In practice,

⁵ See, inter alia, de Fossard, F., 2024. Woke Capitalism in Britain: Diagnosis, Prognosis and Cure. British Prosperity Unit, Legatum Institute.

⁶ Simpson, C., Rathi, A. and Kishan, S., 2021. The ESG Mirage. Bloomberg.

ESG investing tends to manifest through the latter orientation;⁷ indeed, so too does (predominantly US-based) legal precedent surrounding ESG investment, as we will explore. To this end, ESG is not strictly a new investment concept, as Alex Edmans posits: “considering long-term factors when valuing a company isn’t ESG investing; it’s investing”.⁸

Depending on interpretation and operationalisation, ESG investing can thus merely represent an informational input in an investor’s asset pricing process, rather than a moral mandate. Said differently, to consider ESG in the pricing of assets and construction of investment portfolios, for investors maximising risk-adjusted return, means to assess the relative under- or over-pricing of a target’s sustainability profile. The implication of this is that ESG integration may rationalise investment in firms with poor environmental or social records and prospects where the market has already discounted these risks, or where their financial materiality is limited in the short-to-medium term.

Thus, paradoxically, an investor considering ESG factors in their asset pricing and investment decision-making framework may, for instance, allocate capital to a company that is a significant carbon emitter, not as an endorsement of its externalities, but because climate transition risks are viewed as “overpriced” and therefore create a potential alpha opportunity. This is a critical tension in the practice that has been a source of perceived misrepresentation and greenwashing.⁹ As a partial consequence, there is a clear disconnect around the appreciation of how positively meaningful sustainable investment is, between the opinion of the general public and that of finance experts. Indeed, recent survey evidence reveals that “the median retail investor expects a EUR 10,000 green investment to offset 10% of an average

⁷ Inter alia, Sustainability Accounting Standards Board (SASB), 2017. SASB conceptual framework. SASB. Additionally, Financial Stability Board (FSB), 2017. Task force on climate-related financial disclosures. Final Report: Recommendations of the Task Force on Climate-Related Financial Disclosures

⁸ Edmans, A., 2023. The end of ESG. *Financial Management*, 52(1), pp.3-17.

⁹ Certain sustainable fund classifications are subject to regulatory requirements on minimum “sustainable” investment allocations and restrictions on “unsustainable” investments, with approaches differing by jurisdiction.

In the EU, regulation is relatively prescriptive. Under ESMA fund-naming guidelines, funds using sustainability-related terms (e.g. “ESG”, “green”, “climate”) must apply Paris-aligned Benchmark exclusions, limiting exposure to fossil fuels, controversial weapons, and tobacco. These funds must also invest at least 80% of assets in line with stated environmental or social characteristics under the Sustainable Finance Disclosure Regulation. Funds are currently classified as Article 8 or Article 9, although the European Commission proposed reforms in November 2025 to replace these with three voluntary categories: Transition, ESG Basics, and Sustainable.

The UK takes a more principles-based approach. The Financial Conduct Authority Sustainability Disclosure Requirements (SDR) regime introduces four voluntary labels focused on disclosure and anti-greenwashing, rather than mandatory sector exclusions or revenue thresholds. While naming rules apply, labeled funds must simply demonstrate that at least 70% of assets align with their stated sustainability objective using a robust, evidence-based standard. (see *Sustainability Disclosure Requirements (SDR) and investment labels: Policy Statement: PS23/16*. <https://www.fca.org.uk/publication/policy/ps23-16.pdf>).

person's carbon footprint. By contrast, the median estimate among academic experts is 2%, with 0% being the most common estimate".¹⁰

In this paper, we focus in particular on the common type of ESG integration concerned with negatively-screening (excluding) ESG laggards, and ESG-tilting, which introduce a unique set of problems.

This paper argues that ESG incurs material, often overlooked, costs and is susceptible to politicisation

Select asset managers and academics attest to the potential of ESG investing to improve economies and societies, while sometimes also outperforming conventional investing approaches, by virtue of considering sustainability-related risks in their decision-making.

We set out to challenge common narratives, highlighting the inadequacy and politicisation of common ESG investing approaches. We also explore their potentially perverse implications for society and the economy, through augmenting the natural allocation of capital.

This exploration offers a diagnosis of the shortcomings of common approaches to ESG investing from first principles and lays the groundwork for the shaping of public policy, motivated particularly by the increasing politicisation of public pension investment allocation strategies as it has emerged in recent years, although our exploration bears relevance for private pensions and investment more generally.

Capital and its efficient allocation are central to prosperity; ESG distorts the natural pattern of capital allocation

Investing, more generally, plays a critical role in the functioning of modern economies. It is the primary mechanism through which savings are transformed into productive capital, funding innovation, infrastructure, and enterprise growth.

At the macroeconomic level, investment drives long-term productivity and competitiveness; at the microeconomic level, it influences firm behaviour, resource allocation, and labour outcomes. For individuals, investment decisions, whether made directly or on their behalf via institutions such as pension funds, ultimately shape retirement security, wealth accumulation, and economic resilience.

The aggregation of these decisions forms a powerful transmission channel between households and the corporate sector, determining not only financial returns but also corporate behaviour, governance, strategic priorities, the allocation of risk, and ultimately the evolution of economies and societies over time. An informed and responsible approach to investing is thus not just a financial imperative, but a civic one also.

¹⁰ Heeb, F., Kölbel, J. and Weder, C., 2025. Beliefs about the climate impact of green investing. Available at: <http://dx.doi.org/10.2139/ssrn.5841424>

Given the central role of investment in shaping economic and social outcomes, it is essential that individuals and institutions critically assess how and where capital is allocated. In this context, the gamut of sustainable investing approaches augments the flow of capital and economic incentives which influence decision-making in the aggregate and, by extension, outcomes for societies and economies, in different ways. We seek to evaluate the changes in economic incentives and their implications for the general populace, both as investors (principally through the scope of pensions) and stakeholders of an economy and society undergoing distortions in capital flows prompted by sustainable investing.

Investment influences real-world outcomes through several interrelated channels, with the cost of capital acting as one of the most direct and consequential mechanisms. When investors channel funds into sectors, firms, or projects, they affect the availability and pricing of financing. A lower cost of capital mechanically increases shareholder wealth, and should enable companies to invest more readily in growth, innovation, and operations; conversely, a higher cost of capital mechanically constrains expansion, often rendering previously viable activities as unviable and leading to a pivot in corporate priorities.

This capital pricing mechanism, determined by investor demand and perceptions of risk-adjusted returns, forms clear economic incentives, exerting a powerful disciplining force on corporate strategy and shaping the direction of business decision-making. Furthermore, investment decisions affect valuations, shareholder structures, and liquidity, all of which bear on managerial incentives and governance practices. At a systemic level, the cumulative effect of these individual choices steers the reallocation of resources across the economy, directly influencing which industries expand or contract, and altering the structure of employment, supply chains, and regional development.

Through its variety of approaches, sustainable investing sets out to reward, and therefore incentivise, sustainable activity in pursuit of accelerating a transition to a more sustainable world. Sustainable investing fundamentally aims to achieve this through channelling capital away from less sustainable activities, and towards more sustainable activities. As we will explore, however, the means by which sustainable investing manifests, and the resulting implications of mass capital rebalancing towards issuers designated as “sustainable”, are not as benign as the underlying intentions may seem at face value and bear non-trivial consequences for the broader populace. Indeed, there are also critical implications, from spillover effects, for matters relating to international diplomacy, national security and self-sufficiency, among others.

ESG undermines pension performance

Prior to exploring the higher-level transmission of ESG investing to the real economy and society, we consider investor-centric outcomes as they pertain to, for example, public pension beneficiaries. This avenue of inquiry principally focuses on the bottom line and the implications for individual investor wealth, although national wealth and the implications for broader society are also a natural corollary here. We consider how ESG negative-screening (exclusionary) strategies can impose measurable costs on pension performance.

Exclusionary strategies reduce the size of the investible universe, limiting diversification and constraining the efficient frontier (the set of optimal investment portfolios from a risk-adjusted return perspective, across the spectrum of desired risk), ergo directly lowering investors' realised absolute and risk-adjusted returns. Beyond the cost to diversification, systematic distortions in pricing arise from ESG-driven preferences, which impede returns. "Sin" or less sustainable assets often offer higher expected returns, notwithstanding the inherent inconsistency of subjective ESG ratings and the noise that they are susceptible to. These constraints and distortions raise important questions about fiduciary duty, as pension managers who prioritise ESG considerations over financial optimisation risk undermining their obligation to maximise long-term wealth for beneficiaries.

By constraining the investible universe, ESG screening impairs the 'efficient frontier'

We begin by demonstrating the implications of one simple approach to ESG investing which remains prevalent: negative screening.

We demonstrate from first principles that excluding securities from an investible universe that shares an identical distribution of returns, albeit constituent securities are not perfectly positively correlated, impedes return, risk, and thus risk-adjusted return potential. Said differently, reducing the size of an investible universe by removing a given portion of the underlying assets at random, from a universe of underlying assets that share a virtually identical risk and return profile, although they are not perfectly correlated, reduces investment potential.

Opining on this very paradox of optimising for risk-adjusted return while introducing constraints, Cliff Asness posits:¹¹

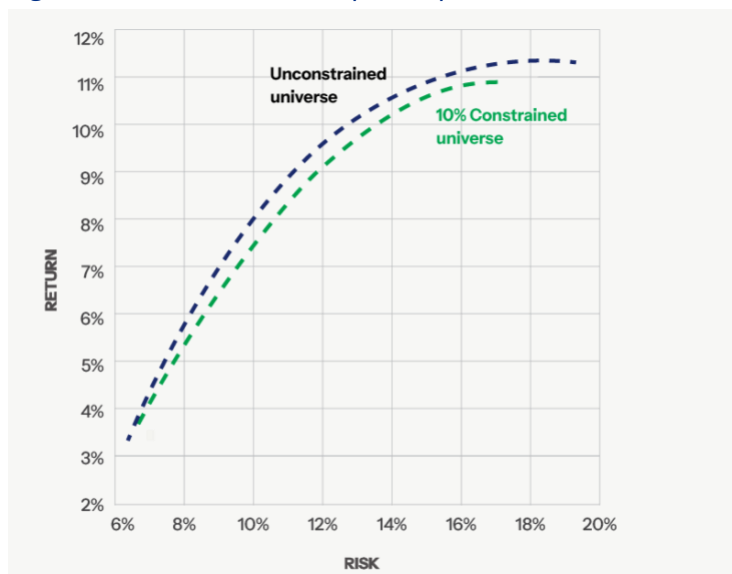
"Put simply, if two investors approach an asset manager, one who says "just maximize [sic] my return for the risk taken" and the other who says "do that but subject to the following constraints," it is simply false and irresponsible for the asset manager to assert that the second investor should expect to do as well as the first, except in the case where those constraints are non-binding (and therefore not relevant). Even in that case, it's still irresponsible to say that the second investor should expect to do better."

¹¹ Asness, C., 2017. Virtue is its own reward: Or, one man's ceiling is another man's floor. AQR. <https://www.aqr.com/Insights/Perspectives/Virtue-is-its-Own-Reward-Or-One-Mans-Ceiling-is-Another-Mans-Floor>

Our exercise explicitly quantifies the cost of the trade-off for a hypothetical portfolio composition where we conservatively assume that, regardless of the degree of inherent or perceived sustainability, all assets are priced according to the same distribution, such that we focus our trade-off on the cost of diversification loss. This exploration is consistent with, albeit distinct from, the contributions of Pedersen et al. (2021), Trinks and Scholtens (2017). The Pedersen et al., as well as the earlier Trinks and Scholtens, study, by design, additionally captures the effect of the relative mispricing (cheapness) of “sin” stocks, a matter which we will explore separately following this exercise. The studies are nonetheless important in highlighting the material opportunity cost of negative screening within the context of ESG investing.^{12,13}

Consistent with Harry Markowitz’s seminal contributions to modern portfolio theory,¹⁴ we generate synthetic annual return series for 100 securities, the daily returns for which are determined randomly from a log-normal distribution of mean (average annualised return) = 5.5% and standard deviation (average annualised risk) = 4%, conservative capital market assumptions for UK equity markets. Our inputs are used to produce an “efficient frontier”: a graphical representation of the optimal portfolios that can be constructed by combining the securities in the investible universe of 100 securities under any given constraints, for a spectrum of investor utility functions (risk and annual return preferences, where risk is expressed as volatility).¹⁵ We repeat the same exercise for an identical investible universe, although having excluded 10% (10) of the investible universe at random, charting both frontiers in Figure 1.

Figure 1: Efficient frontier: optimal potential risk-reward combinations



Source: CFABB

¹² Pedersen, L.H., Fitzgibbons, S. and Pomorski, L., 2021. Responsible investing: The ESG-efficient frontier. *Journal of Financial Economics*, 142(2), pp.572-597.

¹³ Trinks, P.J. and Scholtens, B., 2017. The opportunity cost of negative screening in socially responsible investing. *Journal of Business Ethics*, 140(2), pp.193-208.

¹⁴ Markowitz, H., 1952. Portfolio Selection. *Journal of Finance*, 7(1), pp.77-91.

¹⁵ We assume, reasonably, that the portfolios must be fully-invested, that strategies are long-only, and that no more than 10% of the total portfolio weight may be allocated to a single security (a common portfolio constraint to avoid excessive risk concentration)

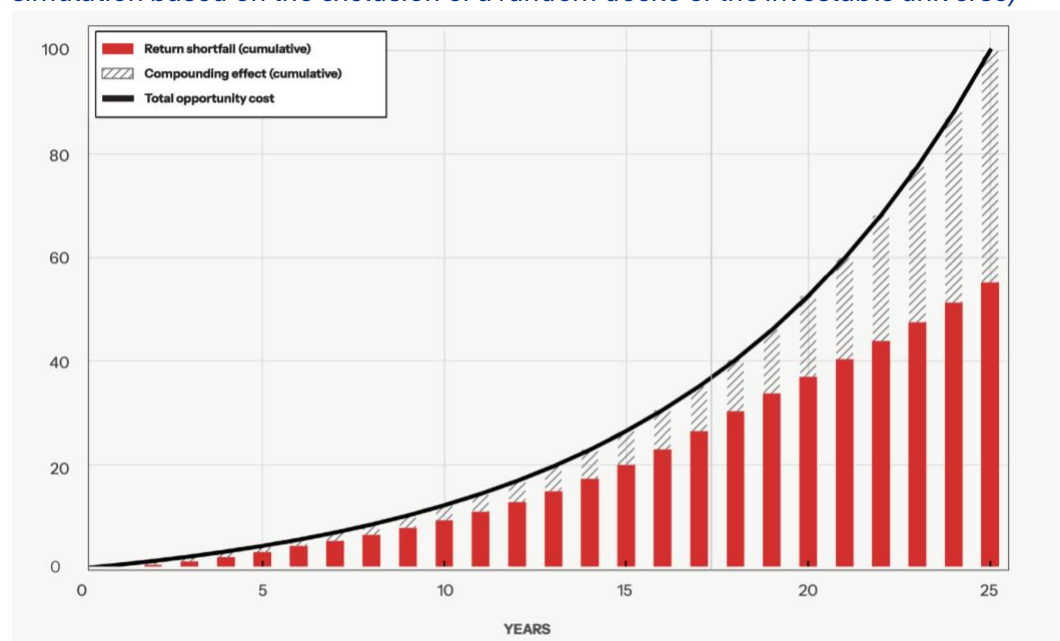
Figure 1 provides the results for a single representative iteration of our experiment. For robustness, we repeat the experiment in its entirety over 100 additional iterations generated randomly from the return and standard deviation distribution and present the results in the Appendix.

Assuming perfect knowledge of future risk and return, the portfolios that can be constructed from the post-exclusion investible universe, a proxy for an investment strategy that adopts negative screening, are strictly sub-optimal to the portfolios that can be constructed from the original, unconstrained, investible universe for any given level of risk. Additionally, the risk spectrum under the post-exclusion investible universe is limited; the original investible universe is capable of producing a wider selection of optimal risk and return profiles.

While demonstrating the constraint of exclusions on the optimal frontier is trivial, the implications are non-trivial. If we take the “tangency” portfolio that can be constructed from the original universe, which can be found at the point of highest return per unit of risk, this portfolio delivers a return of 7.46%. For the same corresponding level of risk (9.45%), the highest absolute return obtainable from the post-exclusion investible universe is 6.99%. This represents an opportunity cost of 0.48% per annum. How relevant is a 0.48% annual shortfall in returns?

Consider then that, for every unit of shortfall that was incurred, an additional return on the shortfall from future years (compounding effect) is also incurred. The median (50th percentile point) of private pension wealth for all persons aged 45-54 in Great Britain is £80,000 per the ONS.¹⁶ If the median private pension pot were to be invested entirely in our post-exclusion universe over our unconstrained universe, the nominal opportunity cost over a 25-year period would amount to over £50,000, as demonstrated in Figure II.

Figure II. The compounded opportunity cost of exclusionary strategies (single representative simulation based on the exclusion of a random decile of the investable universe)¹⁷



¹⁶ Pension wealth: wealth in Great Britain (dataset). Table 6.10: Private pension wealth (active, preserved or in payment), summary statistics by age and sex. A/o April 2020 to March 2022, released 24 January 2025.

¹⁷ A sensitivity analysis, providing the opportunity cost of 4 different exclusion thresholds versus an unconstrained portfolio across 100 simulations of 100 investible universes is available in the appendix

The opportunity cost is sensitive to mean returns and standard deviation, meaning that a universe of higher-returning assets, or with more variability, will cause the opportunity cost of excluding a given portfolio of an investible universe to be higher.¹⁸ We have selected reasonable return and risk figures, considering historical long-term market return data. We had also noted prior that selecting exclusions at random was conservative, and that the exclusions were microcosmic of the broader universe, given that their returns are determined from an identical distribution of returns. In reality, though, issuers excluded by sustainable investors often offer disproportionately higher returns per unit of risk, owing to their lack of desirability, as we will discuss.¹⁹

‘Sin stocks’ systematically outperform, while ESG information introduces noise that undermines investment efficiency

Beyond the investible universe constraints that may be imposed by negative ESG screens or ESG-based exclusion filters, there are other channels by which ESG-optimising strategies undermine portfolio outcomes. We explore the impact of positive screening and ESG-tilting on portfolio outcomes as it relates to the systematic difference in valuations between ESG leaders and laggards, as demonstrated empirically.

Given that the marginal investor’s preference is to own the securities of a more sustainable, rather than less sustainable, issuer, asset pricing theory offers sound reasoning as to why there should be a risk premium, or some market-based compensation, for owning less sustainable issuers.²⁰

Ultimately, the market must clear, and if a market is shunning a particular stock, prices must necessarily adjust to offer a sufficiently high degree of compensation such that investors deem such a stock worthy of purchasing, and to allow such a market to clear. Such a high degree of compensation is expressed through relatively lower prices, and therefore higher expected return (or ex ante yield). Indeed, in equities, traditional oil and gas companies have offered elevated dividend yields and delivered high total returns in more recent episodes. In fixed

¹⁸ Naturally, the opportunity cost is also sensitive to the starting size of the investible universe. *Ceteris paribus*, a larger investible universe will be less encumbered than a smaller investible universe by an equal absolute or relative random constraint of size. Our example is consistent with, for example, an investible universe that invests strictly on-benchmark in a benchmark of 100 securities, such as the FTSE100 which represents the UK’s large cap equity market. There are benchmarks, however, across asset classes and geographies, that contain substantially more securities, and therefore would be less encumbered, *ceteris paribus*.

Additionally pension portfolios, for example, are typically composed of multiple diversified (imperfectly correlated) investment products, representing various markets. While diversification can reduce total portfolio risk, it does not offset the loss of expected excess return or information ratio arising from constrained security selection within each screened universe.

¹⁹ Additionally, this does not consider that “sustainable issuers” may be more likely to pursue strategies that prioritise sustainable outcomes over economic outcomes, either independently, or as influenced by the voting of sustainable investors, to the detriment of the remaining investible universe.

²⁰ *Inter alia*, Fama, E.F. and French, K.R., 2007. Disagreement, tastes, and asset prices. *Journal of Financial Economics*, 83(3), pp.667-689.

income, the yields of corporate bonds issued by fossil fuel companies with otherwise identical duration and credit risk characteristics are often also issued at a price discount (or yield premium) to comparable corporate bonds offered by issuers in other, less controversial sectors.²¹

It should be noted that, to the extent that a less sustainable issuer has sufficient access to alternative, unconstrained sources of capital, their cost of capital is largely insulated from ESG screening. Heinkel, Kraus, and Zechner (2001) demonstrate this in an equilibrium model, showing that when less sustainable firms can substitute toward investors who are indifferent to environmental criteria, exclusion by more investors with sustainability preferences fails to generate meaningful financing frictions.²² The implication is that, in the presence of such substitution, and therefore the potential of sustainability-agnostic investors to displace divestors, divestment has no real world implications. There is neither a disciplining effect on targeted firms nor a financial premium for sustainable investors. We explore the theory behind the disciplining effect in our discussion of the core “theory of change”.

Some researchers have argued that there is some additional return from owning the securities of less sustainable issuers, but that it is not necessarily (entirely) a free lunch. Rather, they argue that it is a reflection of poorer liquidity conditions, since such securities are less marketable and sustainable investors are withdrawn from the pool of would-be buyers.²³ Additionally, of course, there is the supposed reputational, governance, physical and transition risks that may materialise, among less sustainable issuers. Similar to the Heinkel et al. (2001) demonstration, this assumes a limited availability, or inelastic supply, of sustainability-agnostic investors willing to finance such issuers, such that exclusion by ESG-constrained investors meaningfully raises their cost of capital.

An early study into the compensation for holding perceivably less sustainable securities found that so-called “sin stocks” systematically outperformed by virtue of their return predictability, dividend regularity and higher profitability; indeed, the study also finds “no [empirical] evidence that sin stocks provide a premium for reputation risk after controlling for their exposure to factors in today’s asset pricing models”. Moreover, the authors posit: “institutional investors should question if the cost to uphold common social standards is worthwhile”.²⁴ This exploration compels us to consider the “ESG factor” as it pertains to performance attribution in greater depth in the following section.

²¹ Inter alia, Chava, S., 2014. Environmental externalities and cost of capital. *Management science*, 60(9), pp.2223-2247.

²² Heinkel, R., Kraus, A. and Zechner, J., 2001. The effect of green investment on corporate behavior. *The Journal of Financial and Quantitative Analysis*, 36(4), pp.431-449.

²³ Luo, D., 2022. ESG, liquidity, and stock returns. *Journal of International Financial Markets, Institutions and Money*, 78.

²⁴ Fabozzi, F.J., Ma, K.C. and Oliphant, B.J., 2008. Sin stock returns. *The Journal of Portfolio Management*, 35(1), pp.82-94. and Blitz, D. and Fabozzi, F.J., 2017. Sin Stocks Revisited: Resolving the Sin Stock Anomaly. *Journal of Portfolio Management*, 44(1), p.105. The authors are clear the outperformance of sin stocks is due to systematic risk exposures, rather than sin stock-specific alpha.

Additionally, Hong and Kacperczyk (2009)²⁵ demonstrate that “sin”, or shunned, stocks are priced at a c. 15-20% discount to comparable peers. Using the (Gordon) dividend-growth model,²⁶ this implies a c. 2% annual excess return to wealth per annum (i.e. keeping nominal dividend and growth rate the same, a 15-20% discount in the price yields 1.5-2% in potential excess wealth per annum). There is also specific evidence that sustainable stocks systematically underperform. Although it is framed more benignly as a cost of capital benefit for issuers, which is mechanically equivalent to a lower expected return for investors (they are two sides of the same coin), El Ghouli et al. (2011) advance evidence of this being the case.²⁷

Furthermore, the extensive evidence of the systematic green bond premium relative to conventional comparators (coined the ‘greenium’) that is often observed, across a multitude of bond markets and empirical studies, is another such example of an inherent cost of capital benefit for issuers.²⁸ This, similarly, presents hold-to-maturity investors with an inherently inferior prospective return, *prima facie*. The case of the greenium is a particularly curious phenomenon, since some green bonds have virtually identical characteristics to same-issuer conventional bonds, including credit risk exposure, and should, in theory, be at least as marketable as their conventional comparators. This speaks to the negative implications for economic returns of pronounced sustainability preferences.

Recent research demonstrates that out-of-sample, there is no volatility benefit to investing in ESG, that “using ESG metrics provides no measurable risk reduction compared with using financial characteristics alone”. This research also demonstrates that an optimal ESG information-aware allocation demands allocation to sin premia, meaning that value-optimising managers who consider ESG information in their asset pricing and portfolio construction process must necessarily allocate to inherently unsustainable businesses to produce optimal investment outcomes.²⁹

It also should be noted that reducing portfolio ESG-related risks may result in sub-optimal risk-adjusted return. It is the responsibility of investors to take risks that are well-compensated. Said differently, identifying and mitigating sustainability risks does not necessarily improve risk adjusted-return, as these risks can sometimes be well-compensated. Some investment managers may interpret “ESG integration” to mean that they consider and take ESG risks where they are well-compensated, while not committing to avoid inherently unsustainable exposures, contrary to the benign messaging of ESG strategies’ aims, although this is a matter of

²⁵ Hong, H. and Kacperczyk, M., 2009. The price of sin: The effects of social norms on markets. *Journal of Financial Economics*, 93(1), pp.15-36.

²⁶ This model relates equity prices to underlying dividend disbursements, growth rates and discount rates.

²⁷ El Ghouli, S., Guedhami, O., Kwok, C.C. and Mishra, D.R., 2011. Does corporate social responsibility affect the cost of capital?. *Journal of Banking & Finance*, 35(9), pp.2388-2406.

²⁸ Inter alia, Henide, K. and Meyer, S., 2020. Searching for ‘Greenium’: evidence of a green pricing premium in the secondary Euro-denominated investment grade corporate bond market. *October, IHS Markit*. www.icmagroup.org/assets/documents/Sustainablefinance/Public-research/Greenium-whitepaper-110521.pdf

²⁹ Bruno, G., Goltz, F. and Naly, A., 2025. Does ESG Information Deliver Investment Value? A High-Dimensional Portfolio Perspective. *ScientificBeta*.

interpretation. This speaks to the inconsistency in “ESG investing”, which has prompted regulators to develop disclosure guidance in defence of consumer protection.

Critically, in addition to the prior costs, research suggests that there may also be an additional cost to sustainable strategies of ESG information noise. Berg et al. (2022) demonstrate that there is little consistency among major ESG data providers, given that there is a surprisingly low correlation (ranging between 0.38-0.71 among the major providers identified) between their evaluations of companies’ sustainability, markedly lower than, for example, the correlation of the major providers’ credit ratings. This poses a challenge for investors as capturing any supposed ESG risk premium is incumbent on precisely identifying and measuring it in assets; the low correlation among the major providers undermines ESG data’s reliability as a measure of financial risk.³⁰

Additionally, Bruno et al. (2025) demonstrate that ESG information is not meaningfully informative out-of-sample. This casts further doubt on the viability of integrating ESG altogether from the perspective of financial materiality and exploiting any supposed systematic outperformance signal. This is perhaps unsurprising, given the subjective nature of sustainability and the lack of consensus among rating providers.

Beyond the difficulty of objectively assessing firm sustainability, ESG ratings have been argued to be subject to network agency costs, resulting in [positively] biased ESG evaluations, due to the mismanagement of conflicts of interest arising between ESG rating agencies and firms within their coverage.^{31,32,33} Notably, Agrawal et al. (2025) find that ESG rating agencies with strong index licensing incentives tend to issue higher ESG ratings for firms in their coverage “with better stock return performance and those added to their indices, compared to [rating agencies] with weaker licensing incentives”.

“Evergreen” ESG outperformance is a mirage

A factor, in the context of performance attribution, is a systematic characteristic, such as value, size, momentum, quality or ESG, used to explain why a portfolio or asset performs the way it does. Factors capture broad, persistent drivers of returns across many securities. Considering them is essential because an apparent source of outperformance may simply be the result of unintended exposure to another well-known factor rather than to the factor being studied. In other words, unless we control for all relevant factors, we cannot reliably attribute performance to ESG itself. The *ESG factor*, aims to capture the return associated with firms exhibiting

³⁰ Inter alia, Berg, F., Kölbel, J.F. and Rigobon, R., 2022. Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), pp.1315-1344.

³¹ Agrawal, S., Liu, L.Y., Rajgopal, S., Sridharan, S.A., Yan, Y. and Yohn, T.L., 2025. *ESG ratings of ESG index providers* (No. 363). New Working Paper Series.

³² Tang, D.Y., Yan, J. and Yao, Y., 2025. The determinants of ESG ratings: Rater ownership matters. *Journal of Accounting Research*. It should be noted, though, that this perceived effect may be (partially) a result of legitimate cross-portfolio institutional knowledge-sharing.

³³ Li, X., Lou, Y. and Zhang, L., 2024. Do commercial ties influence ESG ratings? Evidence from Moody's and S&P. *Journal of Accounting Research*, 62(5), pp.1901-1940.

favourable environmental, social, and governance characteristics, often as perceived by a major ESG rating provider.

More recent studies have demonstrated the select outperformance of certain Environmental, Social and Governance factors, as a defence of ESG investing's performance relative to conventional strategies, but there are methodological deficiencies to note, and an important point to be made about the persistence of such trends. Among the methodological deficiencies are the retrospective allocations and alterations of ESG scores by rating providers.³⁴

A further observation to be made of research in support of the systematic outperformance of ESG factors, is that they are often regressed on under-specified Fama-French 3- and 5-factor models ("fundamental" factors),³⁵ which do not consider the role of price endogeneity, or "momentum",³⁶ for example, in explaining supposed outperformance.³⁷ This is to say that a subset of the existing research that supports the existence of a meaningfully outperforming ESG factor fails to more comprehensively account for other common factors - in particular, the prominent momentum and quality factors.

The *momentum factor* captures the tendency for stocks that have performed well recently in price terms to continue performing well in price terms in the near term (and for recent underperformers to continue lagging), reflecting behavioural patterns and delayed price adjustments. The *quality factor* captures firms with strong and stable profitability, low leverage, and prudent investment behaviour, characteristics associated with more resilient and efficient businesses.³⁸ An earlier and widely-known definition of the quality factor (or, "Robust Minus Weak" firms) by Fama and French (2015) is simply the premium associated with companies that have high operating profitability relative to their book equity.³⁹

Focussing only on fundamental factors and, selectively or unknowingly, negating the role of historical returns in predicting future volatility,⁴⁰ proponents of ESG-specific outperformance fail to realise the extent to which a sustainability trade may be, for example, a partial momentum trade (consistent with the aforementioned momentum factor), camouflaging and

³⁴ Berg, F., Fabisik, K. and Sautner, Z., 2021. Is history repeating itself? The (un)predictable past of ESG ratings. Available at

SSRN: <https://ssrn.com/abstract=3722087> or <http://dx.doi.org/10.2139/ssrn.3722087>

³⁵ These asset pricing models seek to help investors in deconstructing their risk exposures *ex ante*, and their returns *ex post*, into common "styles" or sources of systematic risk/return.

³⁶ The Carhart 4-factor model, for example, builds on the Fama-French 3-factor model by introducing a momentum factor which captures the tendency of recently positive-returning stocks to outperform recently negatively-returning stocks.

³⁷ As in, inter alia: Aragon, G.O., Jiang, Y., Joenväärä, J. and Tiu, C.I., 2023. Are Hedge Funds Exploiting Climate Concerns?. Available at

SSRN: <https://ssrn.com/abstract=4801745> or <http://dx.doi.org/10.2139/ssrn.4801745>

³⁸ Asness, C.S., Frazzini, A. and Pedersen, L.H., 2019. Quality minus junk. *Review of Accounting studies*, 24(1), pp.34-112.

³⁹ Fama, E.F. and French, K.R., 2015. A five-factor asset pricing model. *Journal of Financial Economics*, 116(1), pp.1-22.

⁴⁰ There is a wide body of literature that provides evidence that the lion's share of future of volatility is informed by historical volatility, by virtue of the market's imperfect efficiency

understating outsized momentum risk exposure. This is an important factor to consider, given the similarity in the signature of the ESG factor, as it is partially flow-driven.⁴¹ Van der Beck (2021) demonstrates that “Under the absence of flow-driven price pressure, the aggregate ESG industry would have strongly underperformed the market from 2016 to 2021”, the entire period of the study window.⁴²

Comparing ESG versions of financial products to their conventional peers is often merely a cyclical exercise and ultimately futile; naively comparing two products without controlling for their factor loadings is an imprecise exercise. Factor loadings and the performance of the various factors tend to oscillate over time. What matters is the performance of the ESG factor in isolation, effectively accounting for all other risks.

ESG factors are argued to be driven by a combination of investors’ preferences for ESG, and firms’ characteristics [financially material information that should be priced]. Focussing on the former, and encapsulating the idea of adjusting for other risks, Bruno, Esakia and Goltz’s (2021) research demonstrates that ESG strategies’ supposed outperformance is eradicated by removing sector biases, and that the ESG outperformance trade popularised over the past years was a function of temporal enthusiasm, reflective of the mass shift of sustainable investors towards perceivably sustainable investments.⁴³

Speaking to the covert over-exposure of traditional factors, the authors’ paper specifically finds that “75%” of the perceived historical outperformance is due to quality factors that are mechanically constructed from balance sheet information”. The historical degree of sustainable crowding-in, or what is commonly known as “herding behaviour”,⁴⁴ of investors may not be repeatable, and therefore may be asymmetrically skewed towards the risk of crowding-out, for example if/as ESG enthusiasm wanes.⁴⁵ To this end, and distinct from the traditional momentum factor, the degree to which the popularisation of the ESG trade is fuelling an ESG asset bubble may be underappreciated.

With regard to the camouflaging of traditional factor exposure (whereby ESG tilting is effectively masking exposure concentration in established factors) and the issue of regression under specification (whereby other factors are not sufficiently considered, causing the return contribution of the ESG factor to be overstated), we conducted some empirical testing. Specifically, we tested the degree to which the variation of Pástor,⁴⁶ Stambaugh and Taylor’s (2022) industry-adjusted “green minus brown” (GMB) factor, a proxy ESG factor,⁴⁷ is explained

⁴¹ Zhang, C., Li, X., Tamoni, A., van Beek, M. and Ang, A., 2024. ESG risk and returns implied by demand-based asset pricing models. *Journal of Asset Management*, 25(3), pp.203-221.

⁴² Van der Beck, P., 2021. Flow-driven ESG returns (No. 21-71). Swiss Finance Institute.

⁴³ Bruno, G., Esakia, M. and Goltz, F., 2021. “Honey, I Shrunk the ESG Alpha”: Risk-Adjusting ESG Portfolio Returns. *The Journal of Investing*.

⁴⁴ Gavrilakis, N. and Floros, C., 2023. ESG performance, herding behavior and stock market returns: evidence from Europe. *Operational Research*, 23(3).

⁴⁵ This represents a unique risk which ESG investors are disproportionately exposed to systematically.

⁴⁶ Pástor, L., Stambaugh, R.F. and Taylor, L.A., 2022. Dissecting green returns. *Journal of financial economics*, 146(2), pp.403-424.

⁴⁷ Utilising the industry-adjusted factor is pertinent in light of the findings of, inter alia, Bruno, Esakia and Goltz (2022) which demonstrate that of the prima facie alpha of sustainability-focussed ETFs observed in

by the common Fama-French three-factor model (FF3; Fama and French, 1993),⁴⁸ Fama-French five-factor model (FF5; Fama and French, 2015), with and without the inclusion of an additional momentum factor (as procured from the Kenneth French library).⁴⁹

Our results revealed economically and statistically insignificant contribution of excess returns from the “ESG factor” and, critically, reveal meaningful negative HML (“high minus low”, a common value factor; negatively correlated with momentum and a diametrically opposite investment philosophy) and SMB-FF5 (“small minus big”, the common [small] size effect, specifically from the FF5 model) factor loadings of the ESG factor, significant at the 1% level, as well as positive RMW (“robust minus weak”, a common profitability factor) and CMA (“conservative minus aggressive”, a common investment factor that measures propensity to engage in capital expenditure) factor loadings, significant at the 5% level. This validates our earlier call for diligence in considering the degree to which sustainability factors may be disproportionately exposed to traditional factor risks and provides a robust empirical rebuttal to the evergreen ESG alpha factor mirage.

Focussing on firms’ characteristics as a driver of ESG factor performance, in isolation, there arises a fundamental paradox from the assertion that ESG is a fundamental factor that offers evergreen outperformance. In public markets, statistically meaningful and persistent sources of fundamental alpha (risk-adjusted outperformance) should, in theory, be “arbitrated” away once they become widely known. If ESG factors indeed offer superior returns, then rational investors, regardless of their stance on sustainability, would converge on these opportunities, bidding up prices and diminishing the excess returns.

This must necessarily hold, since investing in the capital structure of sustainable issuers in public markets is not a practice gated or reserved for mission-driven capital; access to issuers is broadly and indiscriminately accessible, and conventional investors are inherently motivated to deliver optimal financial performance.

This rationale reaffirms that the premise of structural ESG outperformance is less likely a reflection of enduring inefficiencies and more a transient artefact of shifting capital flows or short-term sentiment. Finally, the argument, taken to its logical conclusion, becomes a reflexivity trap: the more investors recognise the existence of supposed ESG alpha, the faster it should disappear.

ESG strategies often incur a higher expense ratio, passing through higher fund fees and costs, further undermining total return

The prior impediments to investment efficiency focus on return and risk. However, the net benefit to investors may also be impeded by higher expense ratios. Higher expense ratios for

selective (outlier) periods, c. 50% can be explained by contributions from industry bias; this factor adjusts for this bias’ contribution to returns. The GMB factor is a portfolio return spread computed as the difference between stocks in the top and bottom terciles of “greenness scores”.

⁴⁸ Fama, E.F. and French, K.R., 1993. Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1), pp.3-56.

⁴⁹ https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

ESG products, as levied by investment managers, directly erode return to investors. The higher expense ratios that are often observed, versus comparable conventional products, typically pass through additional, specialist, costs. These costs include the licensing of sustainable data, the employment of sustainable investment specialists, and the contracting of external sustainable consultants or reviewers, for example.

Researchers have documented that,⁵⁰ in the U.S., ESG funds tend to charge lower net expense ratios than non-ESG funds after adjusting for fund “fee waivers” in the aggregate, although the gross expense ratios (i.e., before fee waivers) of ESG funds are often higher. The researchers explore explanations for this result and find support for this to have been driven by the lower returns of ESG funds, and a loss leader-type strategy whereby relatively cheap ESG funds allow fund providers to cross-sell products. Although, they also offer descriptive evidence of this having been partially driven by increased competition among ESG funds.

ESG investing risks contravening the fiduciary duty of pension fund trustees

Our first principles exercise on the impact of exclusionary strategies demonstrated that screening an investible universe on the basis of ESG considerations is strictly dominated by an unconstrained strategy, and incurs a material opportunity cost to wealth over time. Evidence from the academic literature additionally suggests that ESG information often does not provide additional, forward-looking insight and therefore may not offer any advantage in improving risk-adjusted returns once moving beyond historical backtests. It is evident, then, that certain approaches to ESG investing are financially sub-optimal by design. This raises questions around the potential failure of fiduciary responsibility, particularly if it is not an expressed priority of the ultimate beneficiary, of investors adopting certain ESG investing strategies.

Fiduciary responsibility is a double-pronged duty of care and loyalty on behalf of clients: it is a legal and ethical obligation that ensures clients’ best interests are upheld above all else. It may therefore be unsurprising that in the United States, a federal Texan court ruled on 10th January 2025 that American Airlines Inc and its employee benefits committee violated their fiduciary responsibility to an American Airlines 401k plan by “investing—or relying on others to invest—their employees’ retirement assets towards environmental, social, and governance (‘ESG’) objectives”.⁵¹ Indeed, Judge O’Connor explicitly stated that the evidence revealed “ESG investing is not in the best financial interests of a retirement plan”.

It should be noted, however, that the same district, albeit a different judge, more recently ruled on a different case, which is somewhat opposed to the spirit of this ruling. The ruling found that the U.S. Department of Labor’s 2022 Rule on ESG investing for fiduciaries of employee benefit plans under the Employees Retirement Income Security Act (ERISA) of 1974 does not conflict with the fiduciary duty imposed by ERISA.⁵² A key distinction, though, is that the more recent ruling permits fiduciaries to consider ESG and related factors to the extent that they are relevant

⁵⁰ Black, A.J. and Kölbel, J.F., 2024. The Puzzle of ESG Fund Fees. *Swiss Finance Institute Research Paper Series*, pp.24-109.

⁵¹ *Spence v. American Airlines, Inc.*, No. 4:23-cv-552, (N.D. Tex. Jan. 10, 2025)

⁵² *Utah v. Micone*, No. 2:23cv-00016-Z (N.D. Tex., Feb. 14, 2025)

to financial performance, and while collateral benefits are tiebreakers to otherwise perceivably equal investment options, resulting in no compromise on investment return or risk exposure.

Under our exclusionary exercise, for example, it is challenging to reconcile a scenario whereby any similar overarching ESG investing strategy would not be impacting portfolio risk and return potential. This can only be reconciled where exclusionary screening results in a negligible change to the pool of relevant investible securities, and/or where the excluded assets have a certain return, risk, variance-covariance profile that renders them strictly inferior to the remainder of assets for which there is capacity to allocate. Indeed, in this scenario, such assets would not be included by rational investors in their construction of optimal portfolios, rendering such an exclusionary exercise redundant.

Especially given the uncertainties around future security performance, this raises the question: *Quis custodiet ipsos custodes?* How does one validate whether investment managers are considering ESG factors solely as they pertain to financial performance, and that collateral benefits are tiebreakers to otherwise perceivably equal investment options? Additionally, given the aspersions cast over the utility of ESG data out-of-sample in recent research, the caveat: “to the extent that they are relevant to financial performance” effectively nullifies the role of ESG information in investment decision-making.

Intriguingly, there is also precedent in English trust law from four decades ago on the limitation of the scope of trustees’ discretion solely to the financial interests of pension beneficiaries. In *Cowan v Scargill*,⁵³ the court held that trustees must act in the best financial interests of the beneficiaries, even if doing so conflicts with their own moral or political views. This case was provoked by the National Union of Mineworkers’ proposal under the “Investment Strategy and Business Plan 1982” that the National Coal Board divest from and cease new investment in overseas coal businesses and competing industries, in a protectionist bid to safeguard the local mining industry.

In this ruling, Sir Robert Megarry Vice-Chancellor offers the caveat that “only if all beneficiaries, all of full age, consent to something different is it possible to invest ethically”.

Even this ruling raises an important question specific to public, defined benefit plans: should beneficiaries even be able to unanimously consent to alternative (non-financial) goals being expressed in the portfolio, if, as a public sector pension fund, it could end up with taxpayers absorbing any potentially existential deficit resulting from the pursuit of an alternative strategy.

It should be noted that the European Commission’s High-Level Expert Group had previously proposed a clarification and supplementation of the fundamental duties of investors “in a way that aligns them with sustainability objectives”, in an effort to eliminate any ambiguity around

⁵³ *Cowan v Scargill* [1985] Ch. 270 (13 April 1984)

fiduciary responsibility, and to explicitly codify an obligation to examine and act upon ESG factors within investment strategies.⁵⁴

Universal ownership theory does not resolve the fiduciary paradox

Proponents of ESG integration often invoke universal ownership theory, arguing that large institutional investors should address systemic risks like climate change that cannot be diversified away and threaten portfolio-wide returns (Hawley and Williams, 2000).⁵⁵ This argument suggests that fiduciaries can justify ESG integration as prudent management of systemic financial risk.

Universal owner theory assumes that investor-led capital reallocation and engagement materially reduces systemic risks. Yet as Heinkel et al. (2001) demonstrate, when firms can access alternative capital sources, divestment merely transfers ownership without changing real-world operations. For ESG strategies to reduce systemic risk, the chain of causation from capital allocation to corporate behaviour to measurable risk reduction must hold. This remains empirically contested. For example, Berk and Binsbergen (2025) demonstrate that the “impact on the cost of capital [of divestment] is too small to meaningfully affect real investment decisions”.⁵⁶

Universal owner arguments typically also invoke long-term, uncertain, systemic risks to justify near-term return sacrifices. This creates an agency problem whereby fiduciaries may be imposing their own judgments about distant, contested risks on beneficiaries with shorter time horizons or different risk assessments. When a pension fund's funding ratio is stressed, for example, immediate investment returns directly affect member security and taxpayer liability. Such liabilities are certain, measurable impacts that must be balanced against uncertain, hypothetical, scenarios about systemic risks decades hence. Universal owner theory risks becoming a *carte blanche* for fiduciaries to pursue contested social objectives while claiming back-loaded financial justification.

Regardless, even if systemic risk management were clearly in a universal owner's interest, individual fund managers lack incentives to bear the localised costs (reduced diversification, engagement expenses, reputational risk) while the benefits are enjoyed universally, by all market participants and stakeholders.

⁵⁴ EU High-Level Expert Group on Sustainable Finance (EU HLEG), 2018. Final report of the High-Level Expert Group on Sustainable Finance. https://finance.ec.europa.eu/system/files/2018-01/180131-sustainable-finance-final-report_en.pdf.

⁵⁵ Hawley, J.P. and Williams, A.T., 2000. *The rise of fiduciary capitalism: How institutional investors can make corporate America more democratic*. University of Pennsylvania Press.

⁵⁶ Berk, J.B. and Van Binsbergen, J.H., 2025. The impact of impact investing. *Journal of Financial Economics*, 164.

ESG contributes to higher living costs

The road to hell is paved with good intentions. ESG investing, while intended to promote positive social outcomes, contributes to unintended negative social outcomes, such as increased living costs and widening the inequality gap, adding pressures onto local economies. Through internalising perceivably overlooked environmental and social costs, ESG strategies often raise production expenses, so-called “greenflation”, which are typically passed on to consumers. At the same time, divestment from less sustainable industries and the offshoring of carbon-intensive activities can reduce domestic industrial output without necessarily lowering global emissions, creating a net economic loss locally. Together, these effects contribute to a multi-pronged financial squeeze on local households and pension beneficiaries, highlighting the potential trade-offs between environmental goals and short-term social and economic well-being.

ESG can force higher production costs, resulting in ‘greenflation’ in everyday goods

As the G20 put it, “Green finance involves efforts to internalize [sic] externalities and adjust risk perceptions”.⁵⁷ In practice, this means translating costs or risks that have traditionally been overlooked in production, such as environmental damage, into factors that directly affect valuations and capital allocation. They aim to make the market treat these hidden risks and costs as financially material.

This can be principally achieved by: i). strictly pursuing the optimisation of certain metrics (such as carbon efficiency) in a portfolio, ii). engaging (predominantly on behalf of shareholders) with companies to “green” their operations, and iii). divesting from less sustainable issuers and investing in more sustainable issuers, notwithstanding the risk of greenwashing,⁵⁸ and therefore investing in inherently less sustainable issuers.

In the case of all three, in pursuit of internalising external costs, (the unaware) sponsors of ESG investing become victims of what is effectively an additional, likely regressive, tax on consumption (as additional production costs are passed-through) that adds to the household fiscal burden, regardless of a cost-of-living crisis.

We demonstrate this through the incremental cost of the world’s major suppliers moving to more sustainable coffee beans in Exhibit V, which represents the “greenflation” of moving to a more sustainable bean mix (i.e. the cost of the proverbial sustainability label), notwithstanding the inflation in the bean which may additionally be expected.

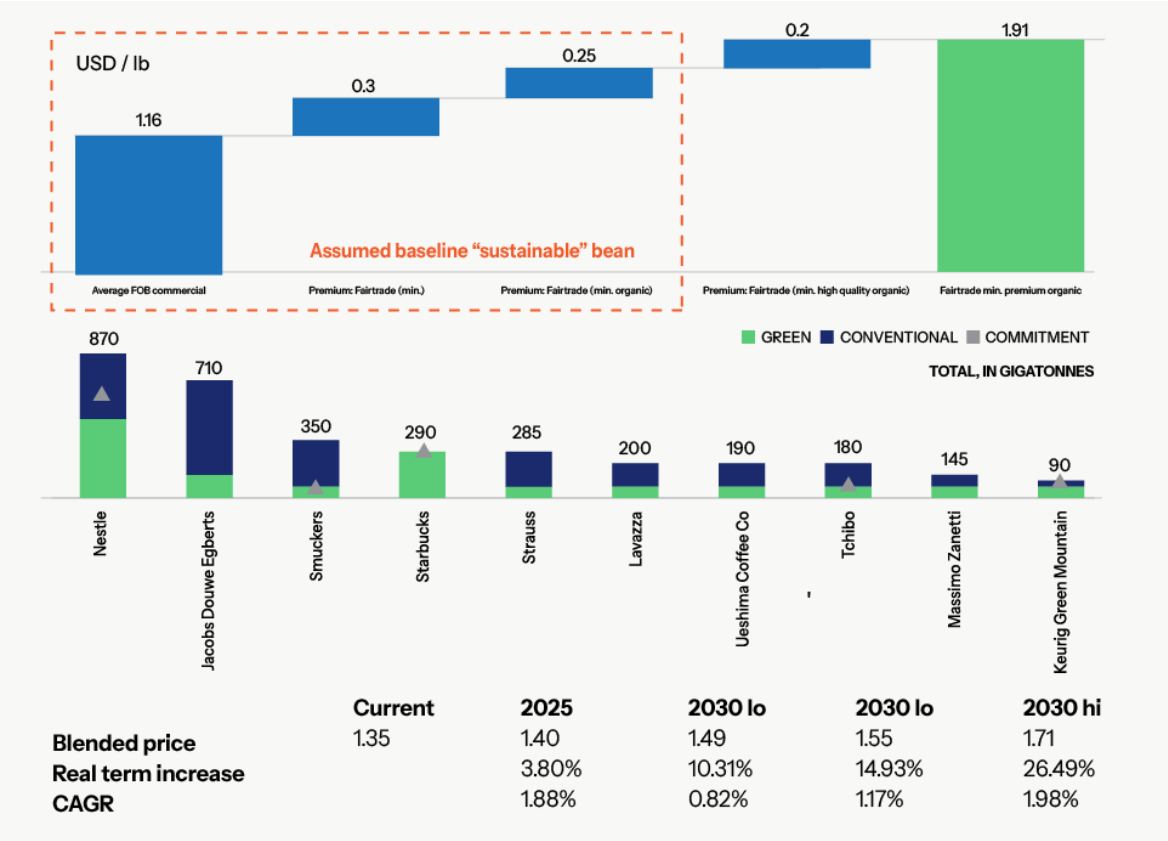
This analysis, conservatively, does not factor in the price impact of a large-scale shift in demand towards sustainable beans, and given the expected scale of the shift in demand, there

⁵⁷ G20 Green Finance Study Group, 2016. “G20 green finance synthesis report”, 15 July. www.g20.utoronto.ca/2016/green-finance-synthesis.pdf.

⁵⁸ Henide, K., 2022. Voluntary disclosure and adverse selection: Bayesian game theoretical inference for green bond labelling regimes. *International Review of Financial Analysis*, 83.

is a risk of supply not sufficiently keeping up with the pace and prompting inflationary bottlenecks.

Exhibit V. The expected coffee bean greenflation component



The analysis assumes production (and retailer share of), consumption and all other price factors to remain stable over the period, so as to isolate only the like-for-like real term increase (and likely pass-through to the consumer basket) in the cost of the marginal coffee bean.

Source: Company reporting and proprietary estimates, CFABB

This incremental cost of between 0.82-1.98% per annum until 2030, which can be expected to be passed onto the consumer, in this case, supports sustainable development overseas, rather than locally, albeit there is a necessary mutual dependence. Greenflation must be considered in the context of a cost of living crisis and amid the multi-pronged ESG-induced squeeze on the marginal citizen, which we expand upon in the following section.

ESG risks accelerating local deindustrialisation, without improving sustainable outcomes

The sustainable wave has risks reinforcing the mass-deindustrialisation and offshoring of economic activity, and therefore loss in local (industrial) output, ongoing in the UK.⁵⁹ In

⁵⁹ Hijzen, A., Görg, H. and Hine, R.C., 2005. International outsourcing and the skill structure of labour demand in the United Kingdom. *The Economic Journal*, 115(506), pp.860-878.

particular, net zero “levelling up” introduces complexity⁶⁰ and untenable regulation. Proponents of a sustainable transition recognise the Darwinian implications of reshaping the local economy: that industries unable or unwilling to adapt to higher sustainability standards will, over time, be competed out of existence. However, they would argue that there would be a displacement of legacy industries by newer, higher quality, industries and opportunities, notwithstanding the instability that arises during the transition period.⁶¹ It should be noted that recent administrative data from Norway found that while green jobs typically pay a premium to average jobs, they typically lag the wage premiums found in high-emission industries.⁶²

When sustainable investors divest from perceivably less sustainable activities, incumbent investors may be displaced by more discerning (and potentially less scrupulous) investors in a mass shareholder wealth transfer. Yet, the underlying business activities continue - and possibly even under a weaker responsible business mandate.

In the case where more carbon-intensive activity, for example, may not be feasible altogether onshore, say due to restrictive regulation, regulatory uncertainty, and capital costs/access, but the demand remains. The activity is merely exported abroad, consistent with the pollution haven hypothesis and recent empirical research.^{63,64,65} As a global economy, therefore, total carbon emissions from such activity may be unchanged, or may increase due to less responsible management elsewhere, resulting in zero net impact to global emissions, but a net loss to local economic output. In effect, what changes is not the activity itself, but the entries in ownership ledgers: a paper reshuffle that leaves global production, and its externalities, untouched. Ironically, it is not these zero net effects that “net zero” strategies are concerned with.

Tangentially, perhaps as a result of the law of unintended consequences, such economic shifts may also be simply shifting supposed externalities away from the visible and quantifiable to the less visible and less quantifiable. Consider how the growth of the electric vehicle market, for example, has put pressure on traditional manufacturing sectors, touting increases in carbon efficiency. Herein, vehicles’ improved carbon efficiency seems to outweigh the marginal social cost associated with the human rights abuses in cobalt mining, which are understood to be feeding into the supply chain – and herein a “sustainability arbitrage” emerges.⁶⁶

⁶⁰ Atkins, E., 2024. Levelling up as green industrial policy. *Contemporary Social Science*, 19(4), pp.495-513.

⁶¹ Lebdioui, A., 2024. Survival of the greenest: Economic transformation in a climate-conscious world. *Elements in Development Economics*.

⁶² Godøy, A. and Isaksen, E., 2025. A green wage premium?. Grantham Research Institute on Climate Change and the Environment. Working Paper No. 432. ISSN 2515-5717.

⁶³ Levinson, A. and Taylor, M.S., 2008. Unmasking the pollution haven effect. *International Economic Review*, 49(1), pp.223-254.

⁶⁴ Dechezleprêtre, A. and Sato, M., 2017. The impacts of environmental regulations on competitiveness. *Review of Environmental Economics and Policy*, 11 (2).

⁶⁵ Choi, J., Hyun, J., Kim, G. and Park, Z., 2023. Trade policy uncertainty, offshoring, and the environment: Evidence from us manufacturing establishments. IZA DP No. 15919. IZA - Institute of Labor Economics.

⁶⁶ Henide, K., 2024. Letter: Out of sight, out of mind. Financial Times.

The implications for costs, particularly when considered as an additional effective (likely regressive) tax, and for loss of local economic output, underline the quadruple-squeeze on pension beneficiaries in the aggregate, who may stand to suffer from sustainable investing via:

- I. increased living costs (through “greenflation”)
- II. smaller pension pots (through the offshoring of economic output)
- III. lower relative returns (through having their investible universe constrained, and through being invested in less profitable businesses), and
- IV. higher taxes (as the fiscal burden increases due to, among other things, a higher load on the welfare state, following accelerated deindustrialisation). This is in addition to the higher fiscal risk, as we described earlier, of public pension pot shortfalls increasing as a result of, sub-optimal, ESG integration.

To this end, do investment managers conduct impact assessments to model the expected impact of their ESG-driven decisions on national wealth, the general public, and, in particular, the most vulnerable members of society? If not, why not?

ESG evaluations, despite perceptions, are ultimately measures of sustainability risks with respect to shareholders, rather than society-at-large, and do not provide a credible route to affecting positive impact for societies and economies.



ESG imposes societal outcomes without democratic consent

ESG investing raises critical questions about democratic accountability. Through allowing unelected technocrats, rating agencies, and asset managers to define and enforce what counts as “sustainable,” ESG frameworks can mobilise capital in ways that bypass public consent, politicise economic decision-making, and impose contested normative goals. This creates a scenario whereby the ultimate beneficiaries, such as public pension beneficiaries, may unknowingly fund ideological priorities, undermining meritocratic principles, transparency, and trust in both markets and democratic institutions.

“Quis custodiet ipsos custodes?” (Juvenal, Satires 6.347–48)

Beyond its financial implications, ESG investing raises questions about legitimacy and accountability. The norms and standards that define “sustainable” activity are increasingly shaped by technocrats, rating agencies, and asset managers - actors who are unelected and often unaccountable to the public. As pension assets are mobilised in-line with these values, democratic processes risk being sidelined. This section examines how ESG frameworks bypass public consent, politicise capital allocation, and erode trust in democratic institutions.

ESG “norms” are defined by technocrats

ESG scorecards, as implemented by investment managers and designed by rating providers, risk overruling the democratic desires of the unaware general populace; ESG scorecards allow for the unilateral definition and implementation of sustainable “norms”, that influence the future design and operation of society, by unelected professionals.⁶⁷

Nevertheless, ESG has real-world consequences

The promotion of such norms introduces economic incentives, which often promote fundamentally unmeritocratic and unfair outcomes as a result of distorting the natural pattern of economics through politicisation. Through imposing contested normative goals as metrics of corporate virtue, ESG frameworks allow a narrow, unelected professional-managerial class to enforce ideological preferences, becoming arbiters of acceptable political beliefs that may not enjoy broad democratic legitimacy. This flouts a key tenet of natural justice, by denying those affected directly, and indirectly, a voice in the process.⁶⁸

⁶⁷ We highlight the relevance and synchronous impact, too, of ESG-aligned investment managers’ influence over shareholder voting. While most shareholder votes occur at annual general meetings (AGMs), they are often influenced in advance, during the proxy voting period. In high-stakes cases, votes may be convened through extraordinary general meetings (EGMs), particularly in the context of activist campaigns or contested ESG-related proposals.

⁶⁸ The “Audi alteram partem” principle of natural justice holds that no person should be adversely affected by a decision without being given access to an impartial forum and a reasonable opportunity to

Unaware ultimate beneficiaries of ESG investing, such as the beneficiaries of pension plans, may not be consciously endorsing these views, yet their capital is nonetheless mobilised by their plan managers to support these views. In leaving this large-scale practice unchecked, we risk diluting and altogether bypassing mechanisms of public deliberation and democratic consent, replacing them with technocratic mandates enforced by rating agencies, consultants, and asset managers. The result is a creeping shift from representative governance toward unilateral rule by ESG technocrats - one that often lacks transparency of process, accountability, or checks on their power.

The asset allocation process must be protected from politicisation

It should be noted that there are a number of Administering Authorities overseeing pension pots within the Local Government Pensions Scheme of England and Wales (LGPS) which are composed of councillors who sit on respective pensions committees. These pensions committees have considerable influence, and it is an issue that, in reality, it is not the diverse body of beneficiary investors who are seeking to “do good”, but it may rather be local councillors advancing their personal political agendas through the promotion of sustainable investment, to the detriment of further eroding public trust in sovereign institutions.⁶⁹ Even though councillors are democratically elected, there should be safeguards to prevent the politicisation of asset allocation strategies, particularly in the case of defined benefit plans, where it would be incumbent on taxpayers to absorb an ultimate shortfall resulting from the pursuit of an alternative strategy, as we noted prior, should such strategies underperform. Additionally, investment managers that autonomously integrate ESG factors into their processes as standard, regardless of client mandate, should be scrutinised to the extent that they pose a risk of underperformance to unaware ultimate beneficiaries.



present their case, among other things. In the described case, pension beneficiaries may be adversely affected without being made aware at all.

⁶⁹ Such influence may not be direct, but a result of selection bias by influencing outcomes over investment manager appointment decisions.

ESG undermines competition, innovation and strategic autonomy

ESG frameworks can generate unintended economic vulnerabilities. By disproportionately disadvantaging smaller firms over larger peers, stranding valuable assets, and incentivising greenwashing, ESG may inadvertently entrench inequality and stifle innovation. The distortion of the natural pattern of capital may also undermine national resilience and national security posture.

ESG creates an uneven playing field that favours larger firms

As explored, evaluating an issuer's sustainability is a subjective exercise, and perceptions demonstrably vary meaningfully among rating providers.⁷⁰ Even among seemingly comparable data, such as emissions intensity, concepts such as Scope 3 emissions have been notoriously challenging to quantify.⁷¹ Methodologies have varied, there is room for self-reporting issuers to distort their emissions profiles, and issuers are able to effectively equivocate liability.

There is also the matter of the size bias: larger and better-resourced firms can afford to dedicate resources to ensuring compliance with sustainability directives, improving their sustainability and better communicating their sustainability profile, by engaging directly with ESG ratings agencies, for example.

Aside from the relative input cost of improving sustainability, there is evidence that the market's perception of "sustainability output" may be subject to a size bias also,⁷² given that smaller firms' sustainability improvements may be internalised by the market, or appreciated, to a lesser extent, or even factor negatively where they may otherwise factor positively for larger firms.

This is critical, given the implied structural impediment to smaller firms' healthy capital formation,⁷³ and the size effect is particularly likely to be material where sustainability compliance is obligatory (legally codified), rather than voluntary. This is further complicated, for smaller firms, where they operate under multiple jurisdictions and may be subject to multiple, inconsistent, sets of regulation.⁷⁴

⁷⁰ Sometimes, however, a confounding consensus emerges, such as in the case of Meta. Meta boasts consistently strong sustainability ratings among a series of external providers, despite a track-record of material corporate governance controversies, a (politically motivated?) deficit in content moderation, irresponsible data governance and concerns relating to negative user mental health outcomes.

⁷¹ Scope 3 emissions are all indirect greenhouse gas emissions that occur in a company's value chain but are not owned or controlled by the company itself.

⁷² Gjergji, R., Vena, L., Sciascia, S. and Cortesi, A., 2021. The effects of environmental, social and governance disclosure on the cost of capital in small and medium enterprises: The role of family business status. *Business strategy and the environment*, 30(1), pp.683-693.

⁷³ Beck, T., Demirgüç-Kunt, A. and Maksimovic, V., 2005. Financial and legal constraints to growth: does firm size matter?. *The Journal of Finance*, 60(1), pp.137-177.

⁷⁴ Bondy, K. and Starkey, K., 2014. The dilemmas of internationalization: Corporate social responsibility in the multinational corporation. *British Journal of Management*, 25(1), pp.4-22.

ESG divestment forces imbalances within the economy, and risks leaving critical assets underfunded

Considering sustainable investing strategies that seek to screen investible universes as we did prior and, additionally, those that integrate ESG data to determine an alternative weighting scheme (the implications for which are not too dissimilar in principle to outright exclusions), we consider a core underlying theory of change: i). investors divest from, and cease new investment in, ESG laggards, instead directing the displaced capital towards ESG leaders, ii). this creates an economic (dis)incentive for (un)sustainable investors to (improve) maintain their sustainability profile, iii). over time, this economic incentive is expected to induce ESG laggards, by virtue of their desire for greater access to, and a lower cost of, capital to alter their modus operandi and better align with an exemplary ESG profile.

Furthermore, this approach risks restricting some of the best-qualified stewards of capital in their respective spheres from transitioning and stranding their valuable assets in the process. Such areas also often offer the greatest improvement impact per unit of investment. If this approach is also not adjusted to ensure representative sector weights in a corporate bond or equity portfolio, for example, this can induce an unbalanced transition, whereby critical but, for example, more carbon-intensive, infrastructure is underfinanced,⁷⁵ falls below the development trend and leaves the general populace underserved, and potentially facing higher consumption costs. Indeed, Mazzolini et al. (2025),⁷⁶ present empirical evidence that speaks to this. They find that “the greenest funds invest more in low-carbon sectors” while, paradoxically, “their carbon footprints are comparable to conventional funds”.

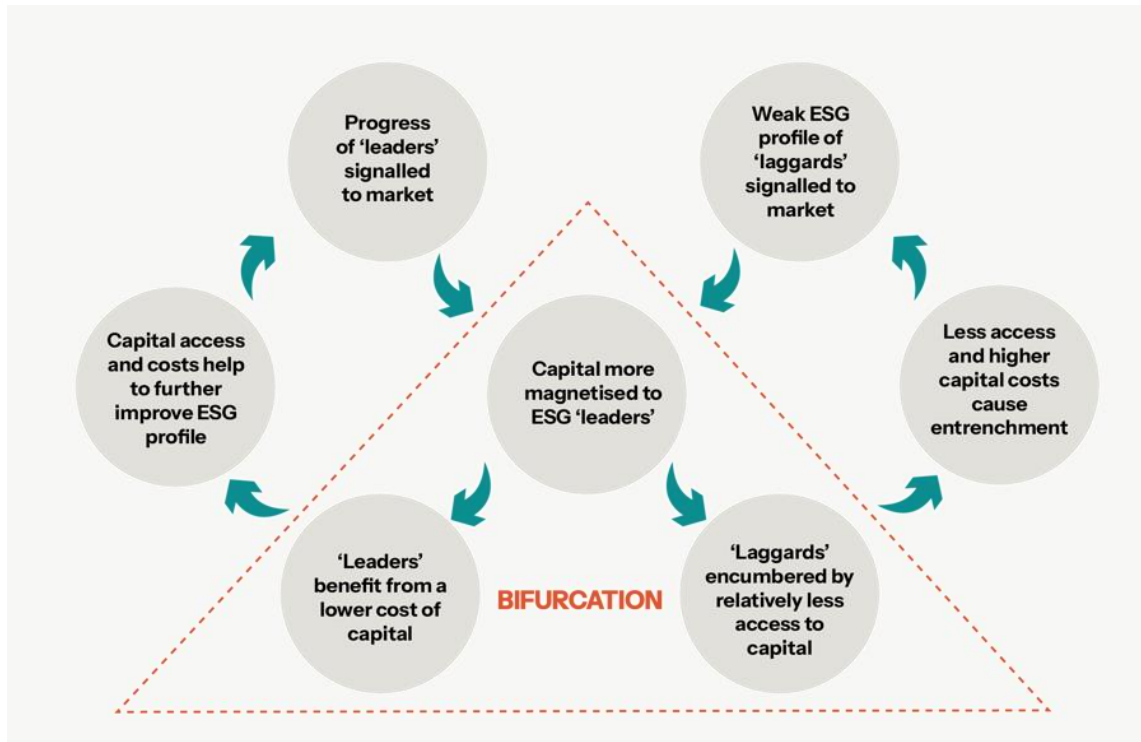
On the latter point, there are material implications for the widening of inequality; while many proponents of sustainable investing can afford the privilege of more sustainable products and services, we cannot be blinkered to assume that the general populace, and the most vulnerable in particular, can afford this privilege, too.⁷⁷ We illustrate the process of ESG laggard entrenchment in Exhibit II.

⁷⁵ This is the case even when ESG ratings are “localised”, owing to the skew in rating distributions and the impact of outright exclusions, to note two arguments.

⁷⁶ Mazzolini, G., Salakhova, D., Giuzio, M., and Kapadia, S., 2025. Sustainability labels vs. reality: how climate-friendly are green and ESG funds?. ECB Working Paper No. 2025/3121. European Central Bank.

⁷⁷ Henide, K., 2020. Letter: Companies need support in order to decarbonise. Financial Times.

Exhibit II. A self-enforcing capital bifurcation cycle



Source: Henide (2021)⁷⁸

Counterintuitively, those most in-need of sustainable development capital to support their transition pathway, and those who offer the most future impact per unit of investment, are those most marginalised by this common theory of change. Researching, developing, and operating activities more sustainably is typically more costly and introduces uncertainty, often requiring a sunk cost towards emergent technologies with little guarantee of success, and sometimes offering a prospect of lower profitability.

Simply negating those most in-need, penalising them with a higher cost of capital, further hinders their prospects of “greening” themselves, and risks wasting valuable capital in the process. There is an inherent size bias here, too, given that larger and better-resourced issuers will be able to transition faster and better than their peers, consolidating their advantage and posing risks of higher competition hurdles for new entrants, and posing further risks to economic diversity, consumer choice and overall welfare.⁷⁹

⁷⁸ Henide, K., 2021. Assessing developing countries' sovereign creditworthiness: a female agency framework. Available at SSRN.

⁷⁹ The implications of higher market saturation and lower industry competition pertaining to corporate pricing power and impeding innovation, among other things, have been well-explored in the academic literature. Inter alia:

Arrow, K.J., 1972. *Economic welfare and the allocation of resources for invention* (pp. 219-236).

Macmillan Education UK.

Tirole, J., 1988. *The theory of industrial organization*. MIT Press.

ESG incentivises rent-seeking behaviour

We note, also, the inherent economic incentives to induce rent-seeking behaviour, or “greenwashing”, among issuers who allocate resources to improve sustainability optics rather than towards, for example, productive capital.⁸⁰ At the margins, economically weaker corporations may be able to retain their competitiveness and displace economically stronger corporations by offsetting their business performance with better-perceived sustainability credentials.

Naïve ESG approaches impede inherently socially beneficial firms whose products and services are systemically essential

Similarly demonstrating that common approaches to sustainable investing are unfit for purpose, some inherently sustainable businesses and decarbonisation enablers are systematically overlooked because of naïve rating methodologies, blanket exclusions, and a lack of nuance in sustainable finance governance.

We consider the case of exclusions on the basis of footprint and emissions intensity in the below examples: Woodside Energy, an upstream oil and gas producer with emissions intensity materially below global peer averages due to asset quality and operational efficiency,⁸¹ and serves to satisfy global fossil fuel needs, must necessarily be excluded by some sustainable investors under European Securities and Markets Authority’s (ESMA) guidance for strategies marketed as “sustainable” under Art. 9 of the EU’s Sustainable Finance Disclosure Regulation due to revenue-based fossil fuel screens applied at the fund level.⁸²

Linde, a global industrial gas and engineering firm, helped its clients avoid c. 96 Mt CO₂e through more carbon-efficient steel production, semiconductor manufacturing, and hydrogen

⁸⁰ Henide, K., 2021. Green lemons: Overcoming adverse selection in the green bond market. *Transnational Corporations Journal*, 28(3).

⁸¹ <https://www.woodside.com/docs/default-source/investor-documents/major-reports-%28static-pdfs%29/2024-annual-report/climate-update-2024.pdf>

⁸² The European Securities and Markets Authority (ESMA) has implemented guidelines that restrict investment funds from using “sustainability-related terms” in their names if they include investments in fossil fuel companies.

Specifically, EMSA’s guidance (https://www.esma.europa.eu/sites/default/files/2024-08/ESMA34-1592494965-657_Guidelines_on_funds_names_using_ESG_or_sustainability_related_terms.pdf) stipulates that funds using such terms should “exclude investments in companies referred to in Article 12(1)(a) to (g) of CDR (EU) 2020/1818” (<https://www.legislation.gov.uk/eur/2020/1818/adopted>), which includes:

- (d) companies that derive 1 % or more of their revenues from exploration, mining, extraction, distribution or refining of hard coal and lignite;
- (e) companies that derive 10 % or more of their revenues from the exploration, extraction, distribution or refining of oil fuels;
- (f) companies that derive 50 % or more of their revenues from the exploration, extraction, manufacturing or distribution of gaseous fuels;
- (g) companies that derive 50 % or more of their revenues from electricity generation with a GHG intensity of more than 100 g CO₂e/kWh

generation over FY24,⁸³ yet it has been widely overlooked (penalised in carbon-intensity-based frameworks) due to its own operational emissions (Scope 1 + 2 of c. 37.4 Mt CO₂e) and Scope 3 emissions (estimated to total c. 24.4 Mt CO₂e) over the same period.

Speaking to the “inconsistencies between ESG labels and outcomes”, Mazzolini et al. (2025) find a “persistent disconnect between ESG labels and actual environmental outcomes”. They find “no consistent evidence [...] allocate more capital to firms with ambitious [science-based targets]”, and suggest that “many sustainability-labelled funds may not deliver meaningful environmental impact”. Recent research by Patatoukas and Hwang (2025) also documents a material ESG-Carbon performance disconnect among sector peers, which should alarm even investors explicitly seeking to reduce their portfolio’s carbon intensity. They attribute the disconnect to how “ESG assessments reward disclosure practices and management processes rather than actual environmental outcomes”.⁸⁴

ESG risks exacerbating national security vulnerabilities

For discerning foreign investors, and for Great Britain’s adversaries, to the extent that they have access to our local capital markets, this capital bifurcation cycle and the systematic discount that ensues for perceivably less sustainable or “sinful” issuers and sectors offers a mass shareholder wealth-transfer opportunity, and an opportunity to undermine our national security posture.

What, then, will be the recourse if British investors cede control to discerning but less scrupulous investors and economic adversaries that will readily allow for the deterioration of corporate governance and the offshoring of operations in favour of improved profitability within the bounds of legality, displacing their peers’ market share?⁸⁵

This scenario is not outside the realms of possibility and is characteristic of the U.S. reversal of sanctions on Venezuela and state-owned oil giant Petroleos de Venezuela, S.A. (PDVSA),⁸⁶ of which CITGO is a U.S. subsidiary.

The White House had openly admitted that the ban on Venezuela’s debt trading, among a slew of sanctions levied on the Maduro regime, citing human rights abuses and anti-democratic action, was a policy failure that played to the advantage of U.S. adversaries. Reversing the ban was an overt pursuit of “displacing nefarious players”, following reporting that Wall Street

⁸³ “Resilient”, Linde’s Fiscal Year 2024 Sustainability Report. <https://assets.linde.com/-/media/global/corporate/corporate/documents/sustainable-development/2024-sustainable-development-report.pdf>

⁸⁴ Patatoukas, P.N. and Hwang, J., 2025. The ESG-Carbon Performance Disconnect: Implications for Sustainable Investing. Available at SSRN: <https://ssrn.com/abstract=5937079> or <http://dx.doi.org/10.2139/ssrn.5937079>

⁸⁵ Increased bureaucracy may be an avenue for recourse, but ceding control would mean to cede influence over positive issuer-level decision-making and the promotion of local interests.

⁸⁶ Executive Order 13808; Executive Order 13835

investors had shared with Washington evidence that “Venezuelan bonds were being traded by investors with ties to Russia”.⁸⁷

Additionally, concerning international diplomacy and sovereign self-preservation, some ESG strategies continue to explicitly exclude the defence industry from their investible universes on the basis of the “Do No Significant Harm” maxim and aversion to “controversial”.⁸⁸ This poses a risk to strategic autonomy at a time when the United Kingdom and close European allies recognise the need for imminent large-scale rearmament. It should be noted that, at the time of writing, public opinion is prompting a re-thinking of the outright exclusion of defence in sustainable strategies, given the context. Some prominent investors have altogether dropped the 10% threshold on controversial (nuclear) weapons inside the bounds of the non-proliferation treaty, in a landmark shift in consensus, amid a revision in several standards and guidelines in Europe. N.B. a recent update by the European Commission has opted to reword “controversial” to “prohibited” weapons, widening the viable investment universe for sustainable investors,⁸⁹ consistent with investors’ direction of travel.

⁸⁷ Vyas, K., and Saeedy, A., 2024. How Wall Street Won a Battle Over Venezuelan Sanctions. The Wall Street Journal. Available at: <https://www.wsj.com/world/americas/how-wall-street-won-a-battle-over-venezuelan-sanctions-a97fd329>.

⁸⁸ Under the previous SFDR regime, companies with greater than 10% revenue exposure to military equipment and services were explicitly prevented from classifying their funds as Article 8 or 9 (sustainable). It should be noted that the UK’s SDR does not explicitly address the defence sector.

⁸⁹ Commission notice on the application of the sustainable finance framework and the Corporate Sustainability Due Diligence Directive to the defence sector. C/2025/4950. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C_202504950

Capital allocation must pivot back toward sound principles: policy recommendations

This paper has demonstrated that prevailing ESG investing practices rest on weak empirical foundations, distort capital allocation, and generate material unintended consequences for investors, consumers, and the state. Capital allocation plays a central role in shaping economic outcomes. When systematically distorted, as is increasingly the case under naïve ESG frameworks, it impairs risk-adjusted returns, raises living costs, accelerates deindustrialisation, and undermines strategic autonomy. These effects compound over time and fall disproportionately on those least able to bear them, including public pension beneficiaries and taxpayers.

To address the shortcomings of prevailing ESG investing practices, a recalibration of capital allocation strategies is required. This recalibration must prioritise evidence-based, financially prudent, and democratically accountable principles that safeguard the interests of beneficiaries and the broader economy. The following outlines guiding principles for public defined benefit (DB) schemes, such as the Local Government Pension Scheme (LGPS), while also considering the role of private schemes in fostering broader economic and social resilience. These principles aim to restore trust, enhance financial outcomes, and mitigate the aforementioned counterproductive and unintended consequences of ESG-driven distortions of the natural pattern of economics.

While public schemes must lead by example, the principles of financial soundness and accountability must also extend to the private sector to move the needle on the wider negative impacts of naïve ESG approaches on the economy and society. The investment decisions of the entire pension and investment industry significantly in the aggregate shape corporate behaviour, governance, and resource allocation across the economy. A proactive effort, therefore, is needed to raise awareness among all ultimate beneficiaries about the often-overlooked costs and misunderstandings that surround ESG.

> Introduce guiding principles on sustainable investment for LGPS and other public DB schemes

Public defined benefit (DB) schemes, such as the Local Government Pensions Scheme (LGPS), must be safeguarded to prioritise the financial interests of their ultimate beneficiaries and the nation above all else. Furthermore, their investment strategies should not be susceptible to politicisation.

This requires the establishment of rigorous guiding principles informing decision-making relating to asset allocation, associated due diligence, and good governance practices. The primary and overriding goal of pension fund trustees must be to act in the best financial interests of the beneficiaries, consistent with the precedent in English trust law from *Cowan v Scargill*. This is essential because, in the case of defined benefit plans, it would be incumbent on taxpayers as a whole to absorb an ultimate shortfall resulting from the pursuit of an alternative strategy.

While democratically elected councillors sit on LGPS pensions committees, safeguards must be in place to limit the scope for contested political objectives to be advanced through investment mandates, through the promotion of sustainable investment, particularly where such strategies risk underperformance and the need for taxpayer-funded bailouts.

> Introduce external expert committees, up-skill pension trustee boards and bolster governance

The increasing complexity and politicisation of sustainable investing heighten the risk that under-equipped trustee boards may be swayed by perceivably benign, but poorly evidenced, ESG narratives. To mitigate this risk, and the risk of asset allocation being politicised, governance within public schemes must be structurally reinforced. This requires introducing an external expert committee to up-skill and support the decision-making of pension trustee boards, bolstering their oversight function.

Composed of highly experienced technocrats with deep investment and capital markets expertise, this advisory committee would serve as a crucial safeguard, ensuring investment decisions are grounded in evidence, financial materiality, and the overriding fiduciary duty to prioritise the best financial interests of beneficiaries and the nation. Such a committee could effectively scrutinise and resist ideologically driven mandates, and support more generally by grounding the investment process in evidence.

> Require explicit beneficiary consent and enhanced disclosure for non-financial objectives

Where investment strategies pursue objectives beyond financial risk and return, particularly within public and workplace pension schemes, explicit and informed beneficiary consent should be required. Implicit consent, inferred preferences, or generic sustainability statements are insufficient where capital allocation decisions may materially affect returns or risk exposure.

Trustees and scheme sponsors should be required to clearly distinguish between ESG considerations that are demonstrably financially material and those that reflect broader ethical, social, or political objectives. Where the latter are pursued, beneficiaries must be made aware of the nature of these objectives, the expected trade-offs, and the potential impact on long-term outcomes.

In the context of public defined benefit schemes, where beneficiaries cannot easily opt out, and taxpayers ultimately underwrite funding shortfalls, the scope for pursuing non-financial objectives should be particularly constrained. Absent broad and explicit beneficiary consent, such objectives should not be embedded within strategic asset allocation or portfolio construction.

Additionally, where asset managers provide ESG products, such products should be accompanied by periodical public disclosure of the product's return decomposition over

time by factor exposure, alongside those of a comparable benchmark, based on a sufficiently well-specified factor model.

> Clarify fiduciary duty and protect default investment outcomes from ESG products

Ambiguity surrounding the interpretation of fiduciary duty in the context of ESG investing has allowed for the gradual inclusion of non-financial objectives within pension investment strategies, often without clear beneficiary consent or demonstrable financial justification. This ambiguity has weakened the practical force of fiduciary discipline and blurred the boundary between investment management and public policy.

Government should therefore provide clearer statutory guidance on the duties of pension trustees. In particular, the duty of loyalty should be explicitly clarified to require the prioritisation of risk-adjusted financial returns over all other considerations, consistent with established principles of trust law. Where other considerations are taken into account, trustees should be required to demonstrate that such factors are financially material or that their inclusion reflects explicit beneficiary instruction.

Clarity is especially important in the design of default investment options. For the majority of pension savers, particularly within auto-enrolment schemes, default funds are an effective mandate. These defaults should therefore be constructed to reflect unconstrained, market-representative benchmarks, rather than ESG-tilted or exclusion-based indices.

> Promote constructive engagement between investors and investees

Where responsible business considerations are pursued, constructive common-sense engagement, rather than outright exclusion, offers a more credible pathway to aligning financial and societal objectives while retaining British ownership of systematically important British businesses. Exclusionary strategies often withdraw capital from precisely the firms and sectors where capital is required to pivot to a more responsible business model, raising their cost of capital without improving real-world outcomes, or simply displacing ownership with sustainability-agnostic investors that may promote less responsible business practices. By contrast, constructive common-sense engagement allows conscious capital to remain invested while addressing financially material risks related to responsible long-term business strategy.

For engagement to be compatible with fiduciary duty, it must be clearly grounded in financial materiality. Engagement objectives should be specific and linked to identifiable improvements in long-term value creation. Broad, politically contested, or non-financial objectives should not be pursued under the guise of stewardship. Such practices must additionally be transparent to the ultimate beneficiaries. Public disclosure of engagement priorities, methods, and outcomes is essential to ensure accountability and to prevent stewardship from becoming an opaque substitute for exclusionary or ideologically-driven investment constraints.

> Reform ESG disclosure requirements to prioritise financial materiality and proportionality

The expansion of ESG-related disclosure requirements has materially increased the regulatory and compliance burden faced by firms and investors. While disclosure can play a useful role where information is clearly financially material, current ESG reporting frameworks increasingly extend beyond investor-relevant risk and return considerations, imposing costs that are ultimately borne by consumers, workers, and pension beneficiaries. Disclosure requirements should therefore be refocused on information that is demonstrably relevant to long-term financial performance and risk assessment. Metrics that rely on highly subjective assumptions, lack comparability, or serve primarily signalling purposes should not be mandated as part of core reporting obligations. Expanding disclosure in the absence of clear investor use risks reducing the efficiency of capital allocation.

Proportionality is equally important. Uniform ESG reporting requirements across firms of different sizes, sectors, and business models risk entrenching barriers to entry and discouraging investment, particularly in smaller firms and strategically important domestic industries. Regulators should ensure that disclosure regimes do not impose disproportionate costs relative to their informational value.

Finally, ESG disclosure should not be treated as a substitute for public policy. Where governments seek to pursue environmental or social objectives, these should be addressed transparently through legislation, taxation, or direct public investment, rather than indirectly through increasingly expansive reporting mandates imposed on the investment system.

> Safeguard investment in strategically essential sectors

As the FCA has made clear, neither the Sustainability Disclosure Requirements nor wider sustainable finance rules prohibit investment in, or finance for, defence companies. The UK regime is disclosure-based and does not prescribe sectoral exclusions. Nevertheless, lawful and heavily regulated activities in defence and domestic energy are frequently treated as presumptively incompatible with responsible investment frameworks. The result has been effective de-banking, higher financing costs, and constrained access to long-term capital in sectors that are systemically important for national security, energy resilience, and economic stability.

The FCA and Pensions Regulator should jointly issue supervisory guidance explicitly affirming that national security, energy security, and supply-chain resilience constitute financially material considerations that must be assessed. This guidance should clarify that the use of sustainability labels is not precluded by such exposure provided disclosures are accurate and investments are selected based on credible sector-appropriate responsible investment criteria rather than categorical prohibitions. Government should further establish a register of strategic sectors, identifying activities of national importance and require financial institutions maintaining policies that systematically restrict financing to these sectors and businesses to publicly disclose and justify such restrictions with reference to financially material risks.

Complementing regulatory guidance, legislation should prohibit banks from refusing basic business banking services to lawfully operating companies in strategic sectors solely on ESG-related grounds, or imposing materially higher pricing absent documented financial risk justification, with aggrieved companies having recourse to the Financial Ombudsman Service. This addresses the most acute form of ESG-driven exclusion: the denial of essential financial services to economically viable, legally compliant businesses that are critical to the local ecosystem but happen to operate in sectors subject to ESG sensitivity.

> Promote patriotism (rather than ESG) where financially neutral

The experience of ESG investing demonstrates that investor norms, benchmarks, and disclosure frameworks can meaningfully influence capital allocation at scale. However, as this paper has shown, the benefits of such frameworks often accrue unevenly, with capital redirected toward activities and jurisdictions that improve headline sustainability metrics while imposing economic and distributional costs domestically.

Where investment choices are financially comparable, there is a case for recognising the domestic economic contribution of firms as a secondary consideration, rather than allowing capital allocation frameworks to remain neutral to location-specific externalities. Firms that operate, produce, and reinvest domestically; support local supply chains; employ local labour; and contribute to the domestic tax base generate economic spillovers that are not fully captured in conventional financial metrics.

Such considerations should not override fiduciary duty or justify accepting inferior risk-adjusted returns. However, where investment options are otherwise equivalent in expected financial terms, trustees and asset owners should reasonably prefer firms that demonstrably support domestic productive capacity and economic resilience.

Any such preference should be grounded in transparent, measurable criteria. These might include the location of production and employment, domestic reinvestment rates, tax contribution, and participation in local supply chains. Where used, these factors should operate explicitly as tie-breakers rather than binding constraints, and their role should be clearly disclosed to beneficiaries.

Importantly, this approach differs from exclusionary or quota-based strategies. It ensures that, at the margin, capital allocation frameworks systematically favour domestic enterprise when financial outcomes are otherwise comparable, and that British capital is optimised to reward and incentivise the development of local capacity and ecosystems.

Conclusion

Informed and responsible investing is of great importance, but must be grounded in evidence, rather than ideology, misleading marketing and moral platitudes.

Much of what is currently branded as “sustainable investing” lacks nuance and falls short of this standard.

As demonstrated throughout this paper, prevailing practices represent a missed opportunity, tainted by short-sighted opportunism, politicised frameworks, and blunt implementation.

Far from delivering the positive change it promises, naïve approaches to sustainable investing often impose avoidable costs on the public, impairing financial outcomes and accelerating strategic vulnerabilities.

It is against this backdrop that many so-called “sustainable investing solutions” are revealed as not just financially inefficient, but economically counterproductive.

Public pension assets, in particular, must be deployed such that they prioritise the financial interests of their ultimate beneficiaries and the nation. Furthermore, they should not be susceptible to politicisation.

ESG investing purports to direct capital toward a selective vision of a more sustainable future. However, this transformation has not been benign. Rather than promoting a balanced, common-sense, economic transition, the movement risks becoming a technocratic project that is flawed in principle, inefficient in execution, and dangerous in consequence.

We demonstrate from first principles that exclusionary strategies, or the distortion of weighting schemes as a corollary, diminish the optimal risk-adjusted return profile potential of portfolios.

We supplement this with additional critiques and academic studies on the “ESG factor”, which is often incorrectly positioned as a source of evergreen outperformance.

We highlight the potential negative financial implications, which are material, and speak to a greater concern of a failure of fiduciary responsibility in protecting, for example, vulnerable and unconsenting public pension beneficiaries.

Beyond the financial inefficiency of ESG investing, we raise concerns around the politicisation of capital allocation. Investment capital, an effective voting mechanism in determining the shaping of economies and society, is at risk of being hijacked by ESG technocrats. ESG investment frameworks lack democratic legitimacy, and likely better reflect the preferences of their gatekeepers than their ultimate beneficiaries.

Perhaps a victim of the law of unintended consequences, and contrary to the perceivably benign messaging surrounding it, ESG investing is susceptible to creating perverse outcomes, by virtue of distorting the flow of capital, for the local economy and society at large. The negative implications are multi-pronged and relate to: national prosperity, inequality, democracy, meritocracy, justice and sovereign security.

This exposition is particularly pertinent, given the current pressures on the state in the form of: an affordability crisis, a demographic crisis, a mental health crisis, and the need for imminent large-scale military rearmament, which are at risk of being further accentuated, rather than alleviated.

Investing in an informed and responsible manner which contributes to the national interest is important and offers a potential golden age for local industry, including investment management, but it must be grounded in evidence, rather than ideology.

The path forward requires a fundamental restoration of fiduciary duty. Public pension assets must be deployed to prioritise the long-term prosperity of both the beneficiary and the nation. This necessitates a shift from blunt exclusionary screening to a framework of National Resilience, where capital supports domestic productive capacity, local supply chains, and sovereign security.



Appendix

Figure III. Opportunity cost of exclusion thresholds over time (median 45-54yo pension pot, 25 year investment period)

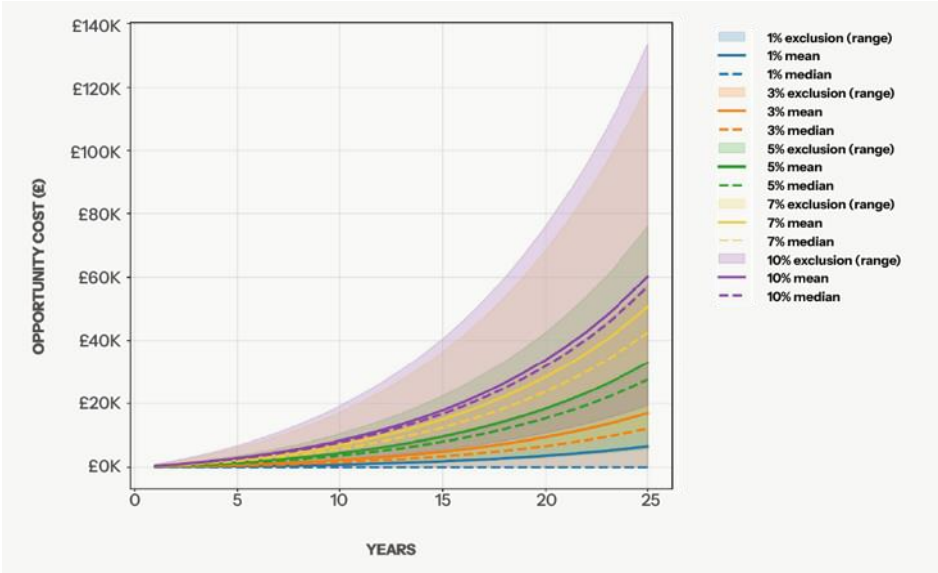
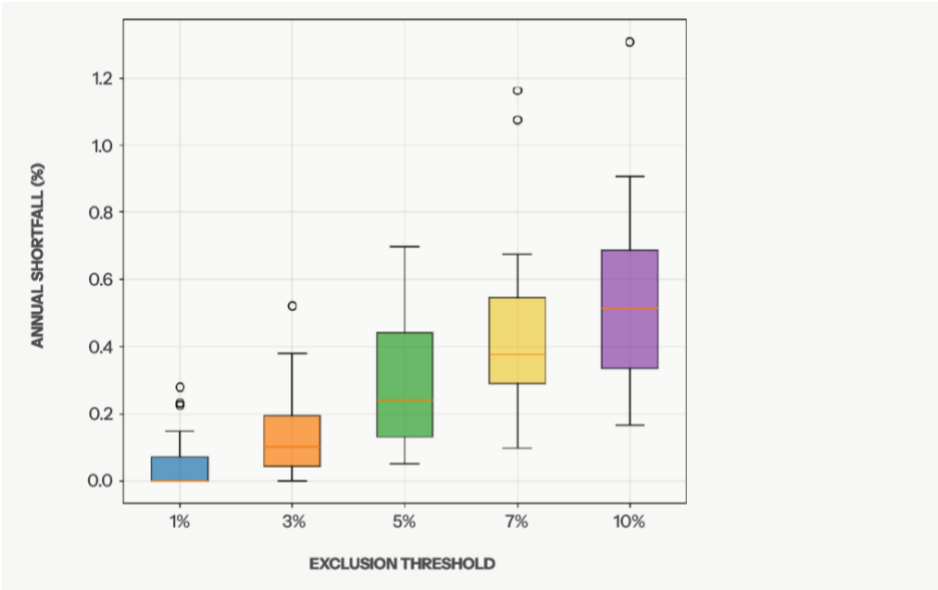


Figure IV. Distribution of annual shortfalls versus unconstrained optimal (tangency) portfolio across exclusion thresholds



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