

Research article

The baker, the bread eater, and their habitat: Self-interest and sustainability accounting in a post-Smithian world

Kennedy Modugu*

Department of Accounting and Finance, Middlesex University, Mauritius

* **Correspondence:** Email: k.modugu@mdx.ac.mu; Tel: +2304036400.

Abstract: Adam Smith’s insight that economic exchange is driven by self-interest rather than benevolence remains foundational to modern economic thought. However, the institutional, social, and ecological conditions that shaped Smith’s perspective have changed profoundly. This paper revisits the figures of the baker, the bread eater, and the habitat to explore how self-interest now operates in a post-Smithian world marked by globalised production, financialised capitalism, and mounting ecological constraints. It argues that, although self-interest still organises economic activities, the moral and communal restraints Smith assumed have been significantly weakened. As a result, corporate externalities have accumulated to a scale that threatens both social well-being and the integrity of our shared environment. The paper uses the “baker” as a metaphor for the self-interested economic actor who produces goods for personal gain through market exchange. The “bread eater” refers to ordinary citizens, vulnerable workers, marginalised communities, consumers, and future generations. These are the people who bear the costs of corporate self-interest but have little voice or protection. The “habitat” is a fragile socio-ecological system that sustains human life but is increasingly pushed beyond its limits. Drawing on political economy, sustainability accounting, and earth system science, the paper develops a conceptual model that links economic self-interest to social and ecological harm through the production of externalities. It then positions sustainability governance, especially sustainability accounting, as a crucial institutional response. The analysis shows how sustainability accounting can disrupt this causal chain by making externalities visible, redistributing informational power, and enabling regulatory, investor, civic, and technological pressures to change corporate behaviour. The paper examines the roles of the state, corporations, civil society, and digital technologies in a multi-level governance system designed to protect both the “bread eater” and the “habitat”. Ultimately, this work contributes to accounting and sustainability scholarship by advancing

a normative and conceptual framework for embedding self-interest within institutions to safeguard people and their environments in the post-Smithian era.

Keywords: Adam Smith; sustainability accounting; externalities; planetary boundaries; sustainability governance

JEL Codes: B12, D62, L21, M14, Q56, Q58

1. Introduction

Adam Smith's well-known observation that society receives its dinner not from the benevolence of the butcher, brewer, or baker, but from their regard for their own interest, remains one of the most enduring ideas in economic thought. This statement captures the belief that private incentives, when operating within a market system, can yield socially beneficial outcomes. However, the world Smith inhabited was very different from today's globalised, financialised, and ecologically strained twenty-first century. In Smith's era, markets operated on a smaller scale. Personal morality, communal norms, and reputational concerns placed meaningful restraints on self-interest. Local conditions limited harm. The natural environment, although never infinite, was generally assumed to be resilient enough to absorb economic activity.

Modern corporations operate across borders, jurisdictions, and supply chains, which diffuses responsibility and weakens moral constraints. Global production systems generate externalities that affect people who neither benefit from profits nor have the power to influence corporate behaviour. These externalities extend beyond economics, shaping the environment, social structures, and the ecological survival of communities. The "bread eater" is the ordinary person whose well-being was once assumed to be protected by market discipline and moral norms. Now, this person faces vulnerabilities that Smith could not have anticipated.

At the same time, economies now operate within rapidly tightening ecological limits. Climate change, biodiversity loss, freshwater depletion, soil degradation, and air pollution all result from production processes guided by self-interest. The habitat of the bread eater is deteriorating, and the institutions that once kept corporate behaviour in check no longer match the scale of today's environmental risks. This situation raises a central question: If the baker acts in self-interest, who protects the bread eater and the environment that sustains both?

This paper reinterprets Smith's insight for the sustainability era. While self-interest remains a central organising principle of economic activity, today's social and ecological challenges demand a more robust governance framework. Mechanisms such as sustainability accounting, mandatory disclosure, ecological regulation, and multi-stakeholder participation can help channel private incentives towards socially responsible outcomes. The argument presented is theoretical, normative, and conceptual, but it also identifies clear directions for future empirical research. The paper's main contribution is a conceptual model that explains how self-interest produces externalities and how sustainability governance, especially accounting, can redirect behaviour to promote ecological stewardship and social well-being.

The paper makes three contributions to accounting scholarship. First, unlike prior work on externalities that treat well-being as isolated market failures (Pigou, 1920), or stakeholder theory that focuses on firm-level relational obligations (Freeman et al., 2010), this paper integrates Smithian moral philosophy with sustainability governance to develop a unified causal model linking self-interest, externalities, social and ecological harm, and institutional correction through sustainability accounting. Second, it advances the conceptual constructs of the “bread eater” and the “habitat” as analytical categories that bridge political economy, accounting, and earth system science, offering a wider framing than the materiality-driven approaches that dominate environmental, social, and governance (ESG) discourse. Third, the paper repositions sustainability accounting not merely as a disclosure instrument but as a governance mechanism that reconstitutes the moral infrastructure that Smith presupposed and that contemporary capitalism has eroded.

The remainder of the paper is organised as follows: Section 2 revisits Smith’s theoretical foundations and examines the evolution of non-benevolence in contemporary capitalism. Section 3 offers a conceptual interpretation of the “bread eater” and the “habitat”. Section 4 draws on moral philosophy and institutional economics to reassess Smith’s framework. Section 5 develops a conceptual model linking self-interest, externalities, and sustainability governance. Sections 6 and 7 address who will protect the bread eater and the habitat, respectively. Section 8 proposes policy recommendations, while Section 9 outlines implications for future research.

2. Theoretical foundations

2.1. Adam Smith revisited: Self-interest, markets, and moral sentiments

A serious engagement with Adam Smith requires reading *The Wealth of Nations* alongside *The Theory of Moral Sentiments*, rather than isolating one from the other. The first presents the architecture of markets, specialisation, and the organisation of economic life around self-interest. The second provides the philosophical scaffolding that makes such an economic order possible. In *The Wealth of Nations* (1776), Smith describes the baker, the brewer, and the butcher as supplying goods not out of benevolence but out of regard for their own interest. This passage is often interpreted as an endorsement of unrestrained market freedom. A fuller reading of Smith’s work, however, reveals a more nuanced position.

In *The Theory of Moral Sentiments* (1759), Smith argues that human behaviour is shaped by sympathy, the desire for approbation, and the internalisation of moral norms. These features ground what he calls the “impartial spectator”, a construct that moderates self-interest through the individual’s awareness of how their actions appear to a shared moral community. Smith assumed an economic world in which the pursuit of personal advantage occurred within a system shaped by social norms, neighbourly accountability, and institutions that discouraged injurious conduct. The famous dictum on non-benevolence, therefore, presupposed a society in which economic actors lived in proximity, had reputational stakes, and were constrained by local moral and legal boundaries. In that world, self-interest was not untethered; it operated within a moral ecology that Smith believed would prevent its worst excesses.

Modern interpretations often understate Smith’s scepticism about concentrated economic power and his criticism of corporate conduct that manipulated markets or harmed the public. His suspicion of monopolies, corporations, and political capture indicates that he did not envisage an economic

system in which the pursuit of profit could legitimately override social well-being. The intellectual mistake lies not with Smith but with the selective appropriation of his ideas to justify forms of capitalism that bear little resemblance to the society he analysed.

Industrialisation stretched Smith's embedded moral constraints beyond recognition. Once production shifted from small workshops and local guilds to large factories, the social distance between producers and consumers widened. Workers became anonymous participants in systems they did not control, and owners' regard for their well-being was no longer anchored in direct social proximity. Globalisation further intensified this distance. Corporations now spread their activities across jurisdictions, exploit regulatory variations, and obscure accountability through complex supply chains. Responsibility for environmental damage or labour rights violations can be deflected among multiple actors and locations. The moral sentiments Smith assumed, rooted in face-to-face community life, weakened in a world governed by contractual transactions, impersonal markets, and financial metrics. The embedded morality that once disciplined self-interest dissolved under the pressures of global competition, scale, and institutional complexity. Consequently, the non-benevolence that Smith described as a benign economic principle has become a structural vulnerability of contemporary capitalism.

At this juncture, it is important to distinguish three registers of argument that inform the foregoing analysis. The first is an established interpretation: the reading of Smith through both *The Wealth of Nations* and *The Theory of Moral Sentiments* is widely endorsed by intellectual historians (Raphael & Macfie, 1976; Haakonssen, 2006) and is not itself a novel claim. The second is normative extrapolation: the assertion that Smith's embedded moral constraints have been systematically eroded by financialisation and globalisation is a normative diagnosis informed by, but extending beyond, Smith's own categories. The third is the paper's conceptual innovation: reframing sustainability accounting as a functional substitute for Smith's moral infrastructure, operating through a causal chain of disclosure, pressure, and behavioural correction, constitutes the distinctive theoretical contribution of this work. The sections that follow maintain these distinctions to preserve analytical clarity.

2.2. The logic of non-benevolence in contemporary capitalism

The modern corporation embodies the logic of non-benevolence in ways that exceed anything Smith anticipated. In contemporary capitalism, firms are constructed as legal entities whose primary mission is to generate returns for their owners. Although corporate purpose has been debated for decades, the dominant governance model, grounded in shareholder primacy, privileges financial returns over broader social welfare. This model took firm shape in the second half of the twentieth century, influenced by agency theory and the belief that aligning managerial incentives with shareholder interests would promote efficiency. Consequently, the corporation became a vehicle for the disciplined pursuit of profit, with internal mechanisms such as performance-based pay, capital budgeting, and financial reporting designed to reinforce that orientation.

Over time, this system evolved into what scholars describe as financialised capitalism. Financial markets gained unprecedented influence over corporate strategy, pressuring firms to prioritise short-term gains, cost reductions, and valuation metrics. Performance increasingly came to be defined by stock prices rather than productive capabilities or social contributions. This shift intensified the structural tendency to disregard externalities. When a firm's responsibility is narrowed to shareholder value, any costs borne by society or the environment become invisible unless regulation requires recognition. A rational firm, operating under such a governance model, has little incentive to curb pollution, reduce

emissions, improve labour conditions, or preserve biodiversity unless these measures enhance profitability or mitigate material risks.

In this context, externalities are not unfortunate by-products of capitalism. They are predictable outcomes of a system that rewards cost externalisation. Environmental degradation, community displacement, resource depletion, and social inequities arise when firms minimise costs that they are not required to internalise. Where the cheapest production methods involve exploiting lax labour standards or discharging pollutants in jurisdictions with weak enforcement, the logic of non-benevolence directs corporate behaviour toward socially harmful outcomes. Thus, the baker's self-interest, which Smith presented as a benign feature of market coordination, becomes profoundly consequential when scaled across multinational supply chains and amplified by financial incentives that privilege efficiency and returns over human and ecological well-being.

2.3. Sustainability accounting as a response to market failure

The emergence of sustainability accounting represents an institutional attempt to confront these failures. As the magnitude of corporate externalities became more visible, from climate-related risks to social inequalities, scholars, regulators, and civil society actors increasingly argued that conventional financial accounting was unable to capture the full scope of a firm's impacts. This concern produced a growing movement to develop reporting frameworks that reveal the environmental and social consequences of economic activity. Early initiatives such as the Global Reporting Initiative (GRI) sought to create voluntary disclosure standards that encouraged organisations to assess their material impacts on society and the environment. Over time, these frameworks grew more sophisticated, producing sector-specific metrics, sustainability assurance practices, and multi-stakeholder accountability structures.

More recently, the sustainability reporting landscape has moved decisively towards mandatory disclosure. The establishment of the International Sustainability Standards Board (ISSB), the implementation of the European Union's Corporate Sustainability Reporting Directive (CSRD), and the introduction of climate-risk reporting requirements by securities regulators signal a fundamental shift. ESG reporting, once framed as a corporate social responsibility exercise, has become part of the regulatory core of market governance. Mandatory sustainability reporting recognises that information asymmetry lies at the heart of market failure. When firms are not required to disclose how their activities affect climate, biodiversity, workers, or communities, markets cannot price externalities, investors cannot assess long-term risks, and stakeholders cannot hold organisations accountable.

Sustainability accounting helps address these failures in three ways. First, it supports the internalisation of externalities by making environmental and social impacts visible and subject to scrutiny. Second, it redistributes informational power. For decades, corporations controlled the narrative about their impacts; sustainability reporting shifts informational power towards investors, regulators, workers, and communities. Third, sustainability accounting influences behaviour. When disclosures affect capital allocation, regulatory compliance, and reputational standing, firms adjust their strategies to reduce ESG risks. In this sense, sustainability accounting functions as a modern equivalent of the moral infrastructure that Smith assumed: a mechanism that disciplines self-interest by embedding it in a broader matrix of societal expectations, legal obligations, and ecological limits.

Several streams of prior sustainability accounting scholarship are particularly relevant to this study. The critical accounting tradition has long interrogated the political dimensions of corporate

reporting, arguing that accounting is not a neutral technical practice but a social institution shaped by power relations (Gray, 2010; Bebbington & Larrinaga, 2014). This tradition informs the present study's treatment of sustainability accounting as a governance mechanism rather than a mere information tool. The emerging literature on ESG integration examines how environmental, social, and governance factors are incorporated into investment decision-making, revealing both the potential and limitations of market-driven sustainability governance (Eccles & Klimenko, 2019; Christensen et al., 2021). Research on mandatory and voluntary disclosure also shows that regulatory compulsion can enhance the scope, comparability, and reliability of sustainability information, lending empirical support to this paper's emphasis on mandatory regimes (Ioannou & Serafeim, 2017). This paper builds on these contributions but departs from them in one important respect. Rather than treating sustainability accounting as an end in itself or evaluating the efficacy of specific reporting frameworks, it develops a causal model that connects sustainability accounting to the broader political economy of self-interest and externality governance. In doing so, it offers a theoretically integrated account of why sustainability accounting matters and how it functions within contemporary capitalism.

3. The bread eater and their habitat: A conceptual interpretation

3.1. Who is the bread eater?

The “bread eater” is a symbolic figure that represents the ordinary person whose livelihood, dignity, and survival depend on both the reliability of economic systems and the resilience of the natural environment. In Smith's original context, the bread eater was the immediate beneficiary of the baker's labour, situated within a community where economic interactions were local, personal, and embedded in social norms. In contemporary conditions, however, the bread eater encompasses a much wider and more vulnerable population. Consumers, for example, now participate in markets where product safety is not guaranteed by personal reputation but by regulatory oversight that varies considerably across jurisdictions. Exposure to polluted air, adulterated food, or hazardous products is commonplace where firms face incentives to cut costs and circumvent enforcement.

Workers represent another dimension of the bread eater. The shift towards flexible labour markets, outsourcing, and global supply chains has led to widespread job insecurity and wage stagnation. Workers in low-income regions often face poor occupational safety, limited legal protection, and unpredictable income, even as their labour underpins corporate profitability. Their well-being depends on institutional arrangements that determine how risks and rewards are distributed, yet they frequently lack representation or bargaining power.

Communities dependent on land, water, and local ecosystems also fall within this conceptualisation of the bread eater. In many regions, agricultural livelihoods, fishing, and access to freshwater remain fundamental to survival. When corporate activities pollute rivers, degrade soil fertility, or deplete groundwater, entire community structures are disrupted. Because these communities often lack political influence, the costs of environmental degradation fall disproportionately on them rather than on the corporations responsible for the damage.

A further layer of the bread eater is generational. Future generations, who play no role in current economic decision-making, inherit the long-term consequences of present-day production systems. Climate change, biodiversity collapse, and ecosystem fragmentation reduce the opportunities for them to flourish. These intergenerational effects lie at the heart of sustainability debates, particularly within

Sen's (1999) capabilities approach, which frames development as the expansion of people's substantive freedoms rather than the mere accumulation of wealth. From this perspective, the bread eater is not only the present consumer or worker but also the continuum of human life, whose well-being depends on ecological stability and social justice. The bread eater, therefore, symbolises both the individual and the collective, with particular emphasis on vulnerable groups who bear the brunt of corporate externalities without sharing proportionately the economic benefits that generate them.

It is necessary to clarify the epistemic status of the "bread eater" and the "habitat" as used in this paper. These constructs are neither loose metaphors nor empirically operationalised variables. They function as normative-analytical categories with a dual purpose. Normatively, they encode commitments to distributive justice, intergenerational equity, and ecological integrity, thereby anchoring the analysis in explicit value positions. Analytically, they provide a structured lens for examining how corporate externalities produce differentiated harms across social and ecological domains. These categories are bounded rather than all-encompassing: their purpose is to identify the primary constituencies and systems that sustainability accounting must render visible, not to subsume every conceivable object of concern. Although the present paper confines itself to establishing this conceptual architecture, the constructs are amenable to future empirical operationalisation. Bread-eater vulnerability, for example, could be proxied by indices of exposure to corporate externalities, while habitat integrity could be assessed by alignment with planetary boundary metrics. Such operationalisation, however, presupposes the conceptual groundwork provided by this paper.

3.2. *What constitutes the habitat?*

In this paper, the habitat is not merely the physical environment in which economic activity occurs. It is a composite of ecological, social, and economic systems that together sustain human life. Ecologically, the habitat includes essential natural assets such as clean water, breathable air, fertile soils, forests, and biodiversity. These resources form the foundation of life-support systems and provide ecosystem services, including pollination, nutrient cycling, and climate regulation, which underpin all economic activity. When these systems are disrupted, food-system stability, health outcomes, and economic resilience are compromised.

The social dimension of the habitat comprises the institutions, norms, and public goods that enable cooperative life. Public health infrastructures, education systems, justice institutions, and social protection mechanisms shape the quality of human life by providing essential services and safeguarding collective wellbeing. These institutions mediate the relationship between individuals and markets, offering protections that market forces alone would not. Without robust public systems, the bread eater faces vulnerabilities that private incentives cannot remedy.

Economically, the habitat includes labour markets, production systems, and regulatory frameworks that enable fair exchange. Fair wages, safe working conditions, and efficient markets are not intrinsic features of capitalism; they are the outcomes of deliberate institutional choices. When these structures function effectively, they support livelihoods and enhance community resilience. When they fail, the bread eaters become exposed to predatory practices, income volatility, and structural inequality.

Sustainability research increasingly describes these intertwined systems as socio-ecological systems (Folke et al., 2016), emphasising their interdependence. Ecological degradation weakens social systems by increasing health burdens and reducing food security, while weak social institutions

exacerbate ecological damage by permitting unregulated exploitation. The habitat is therefore not static. It evolves in response to economic pressures, technological change, and ecological thresholds. Understanding the habitat as an interconnected system allows sustainability accounting to examine how corporate actions reshape environmental and social structures, and how these changes feed back into long-term economic viability.

3.3. Vulnerabilities created by modern corporate self-interest

When economic activity is guided predominantly by self-interest, as in Smith's formulation, the assumption is that markets and their surrounding institutions impose limits that prevent harm. In contemporary capitalism, however, these limits are often weak or absent. Firms responding rationally to cost pressures and competitive dynamics may externalise harm onto the habitat while maintaining profitability. These vulnerabilities manifest in several ways.

Climate change is perhaps the most significant example of externalisation. Greenhouse gas emissions reflect a production system that treats the atmosphere as a free dumping ground. The costs of climate impacts, including heatwaves, flooding, and droughts, are borne not only by emitters but also by the global bread eater, particularly those living in regions with limited adaptive capacity. The externalisation of health risks is similarly evident in industrial activities that release pollutants into the air, soil, and water, exposing nearby communities to diseases ranging from respiratory infections to cancer. These harms are rarely reflected in the financial statements of polluting companies.

Labour exploitation is another key vulnerability. Corporations often shift production to regions with weak labour protections, enabling them to suppress wages, overlook safety, or rely on precarious contract arrangements. Workers, who form a critical part of the bread eaters, bear the physical and economic costs of such practices while receiving only a fraction of the value they create. Resource depletion intensifies these vulnerabilities. Unsustainable extraction of forests, minerals, or fisheries generates short-term profits for firms but leaves communities with degraded environments and diminished economic prospects.

Biodiversity loss, driven by agricultural expansion, mining, and industrial processes, further undermines habitats. The loss of species and ecosystems reduces the resilience of natural systems, making them more susceptible to collapse. This erosion has direct implications for food security, disease control, and weather pattern stability, ultimately restricting the capabilities of present and future bread eaters.

These vulnerabilities accumulate over time and across geography. Because impacts often occur far from decision-making sites, and because those harmed frequently lack political influence or access to legal recourse, the externalities of corporate self-interest are borne by the most vulnerable. The habitat becomes both a site of extraction, where resources are taken at minimal cost, and a dumping ground for waste and pollution. This dual function intensifies social and ecological tensions and exposes the profound gap between private gain and public cost. Intergenerational injustice emerges as the final and most enduring expression of this imbalance, as future bread eaters inherit depleted resources, unstable climates, and weakened institutions.

4. Rethinking Smith for the sustainability era

4.1. *Why Smith's "invisible hand" no longer works as assumed*

To take Smith seriously in the twenty-first century is not to repeat the “invisible hand” as a slogan. It is to confront the ways in which the institutional and material preconditions of that metaphor have been fundamentally transformed. Smith’s mechanism presupposed a world of relatively small-scale producers and largely local markets, where proximity anchored moral responsibility and where the consequences of one’s economic actions were visible within a shared community. In such a setting, reputational risk, social disapproval, and direct interpersonal knowledge of trading partners operated as informal regulators of self-interest.

Global supply chains have eroded proximity-based moral constraints. Today, the “baker” may be a brand headquartered in one jurisdiction, sourcing wheat from another, relying on logistics from a third, using labour from a fourth, and selling final products in yet another region. Each link in this chain is governed by contractual relationships and price signals rather than by direct mutual recognition. The worker in a distant factory, the smallholder farmer affected by land degradation, and the community living beside a polluted river may be invisible to the final consumer and, in practical terms, to the multinational corporation’s board. This fragmentation of responsibility erodes the social feedback loops that Smith assumed would temper self-interest.

Information, power, and accountability asymmetries further undermine the corrective capacity of markets. Large corporations have privileged access to information technologies, legal expertise, and political influence that ordinary citizens and communities cannot match. They can shape regulatory agendas, lobby against restrictive environmental laws, and structure transactions to obscure true risks. Consumers rarely have full information about the environmental or social impacts embedded in the goods they purchase. Workers may not know the full profitability of their employers. Communities may lack the scientific and legal resources needed to challenge harmful practices. Where information asymmetry is combined with concentrated economic power, the invisible hand ceases to be a benign coordinating mechanism and becomes a vehicle for powerful actors to pursue their interests in ways that systematically disadvantage the weak.

The scale of environmental thresholds has also changed in ways that render classical market assumptions inadequate. Contemporary science on planetary boundaries has shown that the Earth system operates within biophysical limits on climate, biodiversity, land use, biochemical flows, and other key processes. When these limits are transgressed, nonlinear and potentially irreversible ecological changes may occur. Markets are ill-equipped to handle such thresholds. Price signals typically respond to scarcity after degradation has occurred, whereas planetary boundaries require restraint before irreversible damage emerges. A firm deciding whether to expand fossil fuel production, clear forest land, or intensify chemical use may face no immediate price penalty, even though its actions cumulatively push global systems closer to tipping points. The invisible hand cannot “see” the threshold until it has been crossed, by which point damages may persist for centuries.

There is also a profound temporal disconnect between corporate gain and ecological loss. Business models that generate strong short-term returns may do so by depleting natural capital, destabilising climate systems, or eroding biodiversity, with the full costs emerging only over the long run. These costs fall disproportionately on future generations and on communities with limited adaptive capacity. Corporate decision-making horizons are often measured in quarters or, at best, a

few years; ecological processes unfold over decades and centuries. This temporal misalignment means that even if markets were perfectly competitive and information were widely available, discounting future harms would still favour strategies that sacrifice long-term ecological stability for immediate financial gains. Smith's framework did not address such deep-time dynamics. His baker could not, by selling more loaves, trigger planetary-scale climatic disruption. Today, however, aggregated corporate activity has precisely that potential.

In short, the invisible hand rests on assumptions of proximity, information symmetry, modest scale, and temporal alignment that no longer hold. When production is global, power is asymmetric, environmental thresholds are planetary, and harms unfold across generations, unregulated self-interest cannot be expected to produce socially or ecologically acceptable outcomes. The problem is not that Smith's insight was wrong in its original context. It is that the insight has been abstracted from that context and treated as timeless dogma in a world whose structural conditions are radically different.

To avoid overstating discontinuity, it is useful to specify which of Smith's assumptions have failed, which remain partially operative, and which retain analytical value. Three categories of failure can be distinguished. First, there is moral failure: the assumption that sympathy and the impartial spectator would spontaneously restrain self-interest has been undermined by the anonymisation of economic relationships in global supply chains, where producers and consumers inhabit separate moral worlds. Second, there is institutional failure: the assumption that local legal and reputational constraints would prevent injurious conduct has been weakened by regulatory arbitrage, jurisdictional fragmentation, and corporate capture of governance processes. Third, there is ecological market failure: the assumption that resource scarcity would be signalled through prices has proved inadequate for non-excludable, non-rival ecological goods and for threshold effects that become visible only after irreversible damage. Certain Smithian insights, however, remain analytically productive. The recognition that self-interest is a durable motivational force, not eliminable by moral exhortation, continues to inform institutional design. The principle that governance structures must channel rather than suppress self-interest remains foundational to incentive-compatible sustainability policy. This paper, therefore, proposes not a rejection of Smith but a reconstruction of the institutional conditions under which his core insight can operate without generating the systemic harms documented in the preceding sections.

4.2. Smith's moral sentiments and the missing modern moral infrastructure

If *The Wealth of Nations* provided the grammar of markets, *The Theory of Moral Sentiments* supplied their ethical syntax. Smith's economic vision was never intended to operate in a moral vacuum. He assumed that individuals would, at least to some degree, be guided by an internalised "impartial spectator" that encouraged them to see themselves as others see them and to restrain conduct judged unjust or cruel. This moral psychology was not merely individual. It was anchored in practices of sociability, shared religious and cultural norms, and a sense of mutual dependence within communities. For Smith, markets were embedded in a moral order that predated and constrained them.

In contemporary corporate governance, that moral embedding has largely eroded. The modern corporation is treated as a legal person whose primary responsibility is to its shareholders, and managerial decision-making is evaluated primarily by financial metrics. Although firms often invoke values such as integrity, responsibility, or stewardship in their mission statements, the binding constraints shaping executive choices are typically those imposed by law, markets, and institutional

investors. Communal morality, grounded in sustained interpersonal relationships and shared social norms, has limited scope to operate where key stakeholders are distant, anonymous, or structurally silenced. Boards of directors rarely know the communities most affected by their environmental impacts. Workers in extended supply chains are often outsourced beyond the firm's direct legal responsibilities. Future generations have no seat at the table.

What is missing, therefore, is not morality in an abstract sense, but a modern moral infrastructure capable of performing the role once played by local norms and community expectations. In a global and complex economy, empathy cannot be relied upon as a spontaneous individual virtue; it must be institutionalised. That institutionalisation occurs through standards, law, and enforcement mechanisms that embed concern for others, especially vulnerable stakeholders and future generations, into the fabric of economic decision-making. Sustainability standards requiring firms to report on their environmental and social impacts, labour laws protecting workers' rights, environmental regulations limiting emissions, and fiduciary duties recognising stakeholder interests are all attempts to construct such an infrastructure.

In this context, institutionalised empathy means that the perspectives and interests of the bread eater and the integrity of the habitat are systematically considered in corporate and policy decisions, not merely when it is convenient or reputationally attractive to do so. Standards define what must be measured and disclosed. Laws define what is permissible and what is prohibited. Enforcement ensures that breaches have consequences. Together, these mechanisms create an environment in which self-interest is channelled rather than worshipped, and in which profit-seeking must coexist with respect for human dignity and ecological limits.

Rethinking Smith for the sustainability era does not require abandoning his insights. It requires recognising that the moral sentiments he described cannot be left to individual conscience operating within small communities. They must be embedded in global institutional frameworks that translate ethical concern into binding obligations and observable practices. Only then can the baker's non-benevolence coexist with the protection of the bread eater and the preservation of the habitat on which both ultimately depend.

5. A conceptual model: Self-interest, externalities, and sustainability governance

This section synthesises the preceding analysis into a formal causal model that traces the pathway from self-interest to harm and identifies sustainability accounting as the primary intervention point. Sections 6 and 7 then apply this model to the specific questions of who protects the bread eater and the habitat, respectively, examining the actors and mechanisms through which the model's theoretical logic is realised in practice. Each section, therefore, occupies a distinct analytical register, moving from conceptual definition and diagnostic analysis to model construction and applied governance, while maintaining a common concern with externalities, harm, and the governance nexus. The purpose of the conceptual model is to explain the causal chain through which economic self-interest generates social and ecological harm, and how sustainability governance, particularly sustainability accounting, can intervene to redirect behaviour. The model is not mechanical. Rather, it situates economic actions within institutional structures, informational asymmetries, and societal pressures that shape corporate incentives. In doing so, it articulates a theoretical bridge between Smith's insights on self-interest and contemporary attempts to regulate corporate impacts in a globalised economy.

5.1. From economic self-interest to externalities

The model's starting point is the recognition that economic self-interest, when channelled through competitive markets, drives firms to pursue efficiency, innovation, and cost minimisation. In theory, these dynamics generate welfare gains by lowering prices and encouraging productivity. In practice, they also incentivise behaviours that shift costs onto parties neither represented in corporate decision-making nor able to defend their interests effectively.

Externalities arise when firms optimise private benefits without bearing the full social or ecological costs of their activities. A firm that emits greenhouse gases, for example, incurs only the operational costs of production, while broader climate impacts, including extreme weather events and agricultural losses, are borne by global populations. Similarly, the use of cheap labour in weakly regulated jurisdictions reduces the firm's production costs but exposes workers to low wages, unsafe conditions, and limited social mobility. These harms do not appear in financial statements. They emerge as invisible consequences of corporate strategies that are entirely rational within a profit-maximising framework.

Externalities are therefore not accidental distortions of capitalism. They are structural outcomes of a system that privileges private returns over collective well-being. They reflect a widening gap between corporate actions and their societal and ecological consequences. As these externalities accumulate, they generate systemic risks, including climate breakdown, biodiversity collapse, public health crises, and social inequality, which threaten long-term economic stability and human survival. In this sense, the model views externalities not as isolated "market failures" but as predictable expressions of an economic logic that lacks adequate mechanisms to internalise broader societal concerns.

5.2. From externalities to social and ecological harm

The next stage in the model connects externalities to observed harm. Social harms manifest through deteriorating labour conditions, widening inequality, community displacement, and public health burdens. Ecological harms include deforestation, pollution, resource depletion, and the destabilisation of Earth's climate and ecosystems. These harms are unevenly distributed. The bread eater, comprising the ordinary citizen, vulnerable worker, marginalised community, consumer, and future generation, absorbs the consequences of decisions from which they do not benefit and over which they have little or no influence.

This asymmetry highlights a core insight of the model: harm is not simply the unintended by-product of production. It is a distributional phenomenon shaped by power, governance, and representation. Those with political, economic, or informational power can deflect costs, while those without such power bear the brunt of ecological degradation and social instability. The chain of causality from self-interest to externalities and harm is therefore mediated by institutions that determine whose interests are prioritised and whose vulnerabilities are ignored.

5.3. Sustainability accounting as an interruption in the causal chain

Sustainability accounting is introduced into the model as a mechanism for interrupting this causal sequence. Its central contribution lies in transforming hidden externalities into visible, auditable, and politically actionable information. By requiring firms to measure, quantify, and disclose their environmental and social impacts, sustainability accounting exposes the broader cost structure of

economic activity. In doing so, it alters the information environment in which markets, regulators, and stakeholders operate.

Transparency is the linchpin of this transformation. Once ecological degradation, labour exploitation, or governance failures are disclosed in systematic, comparable formats, they become subject to scrutiny. Investors incorporate them into risk assessments. Regulators benchmark them against legal thresholds. Civil society deploys them to mobilise pressure. Firms reassess the sustainability of their practices. Transparency disrupts the informational opacity that allows externalities to persist unchecked. However, transparency alone is insufficient. The model posits a second stage: pressure. When sustainability disclosures reveal substantial harm, external stakeholders exert pressure through investment decisions, activist campaigns, litigation, regulatory action, or public criticism. These pressures are not uniform; they depend on societal expectations, institutional strength, and media visibility. Nevertheless, they collectively create a field of constraint around the firm, signalling that harmful behaviour carries reputational, financial, or legal risks.

This pressure, in turn, drives behavioural change. Firms facing the prospect of regulatory sanctions, investor divestment, litigation, or reputational damage begin to adjust their strategies by reducing emissions, improving labour standards, investing in cleaner technologies, or reconfiguring supply chains. Behavioural change is therefore the cumulative outcome of transparency and pressure, mediated by the firm's perception of risk and opportunity.

5.4. Enabling forces in the sustainability governance model

Several forces enhance the effectiveness of sustainability accounting within this model. Regulation plays a central enabling role. When disclosure frameworks such as the ISSB standards or the EU's CSRD become mandatory, they reduce selective reporting and enhance the comprehensiveness and comparability of sustainability information. Regulatory enforcement lends credibility to data and compels firms to integrate sustainability considerations into governance structures. Assurance strengthens the reliability of disclosed information. Independent verification reduces greenwashing, builds stakeholder trust, and embeds sustainability metrics within the same epistemic space as traditional financial reporting. Assurance, therefore, transforms disclosures from promotional narratives into credible evidence.

Investor activism is another enabling force. Institutional investors increasingly recognise that unsustainable practices pose long-term financial risks. They use sustainability reports to engage with boards, demand stronger governance, and reshape capital allocation. Investor pressure turns sustainability from an ethical concern into a financial imperative. Civil society, including non-governmental organisations, community groups, labour unions, and the media, amplifies the accountability effects of disclosure. Through campaigns, litigation, and public advocacy, civil society actors turn sustainability data into political pressure. They often represent constituencies that lack market power but bear the brunt of harmful externalities.

Technology enhances the model by expanding the capacity to monitor, verify, and interpret corporate impacts. Satellite imaging, digital ledgers, AI-driven analytics, and real-time sensors reduce information gaps and allow stakeholders to cross-check disclosures. Technology also reduces the costs of transparency and accelerates the exposure of unsustainable behaviour. Together, these forces create a governance ecosystem that strengthens the link between sustainability accounting and behavioural

change. They expand the channels through which transparency becomes pressure and pressure becomes corrective action.

It must be acknowledged, however, that the pathway from disclosure to behavioural change is neither automatic nor guaranteed. Three conditions mediate the effectiveness of this causal chain. The first is enforcement capacity. Sustainability disclosures generate corrective pressure only where regulatory bodies possess the authority, resources, and political independence to impose sanctions for non-compliance or misrepresentation. In jurisdictions with weak enforcement infrastructure, disclosure requirements may produce compliance in form without substantive change. The second is comparability. The utility of sustainability information for investors, regulators, and civil society depends on standardised metrics that permit meaningful cross-firm and cross-sector comparison. Where reporting frameworks remain fragmented or permit excessive managerial discretion in materiality assessments, the value of disclosure is weakened. The third is stakeholder power. Transparency empowers stakeholders only to the extent that they possess the organisational capacity, legal standing, and economic leverage to act on disclosed information. Communities lacking political representation, workers without collective bargaining rights, and consumers in information-poor environments may derive limited benefit from enhanced corporate transparency. The model therefore recognises that sustainability accounting is a necessary but not sufficient condition for redirecting corporate behaviour, and that its effectiveness is contingent on the broader institutional ecosystem within which it operates.

5.5. Constraining forces and systemic limitations

The model also recognises key constraints. Regulatory regimes vary across jurisdictions, creating arbitrage opportunities. Assurance markets differ in quality and independence. Investor activism may weaken during economic downturns or when short-term returns dominate. Civil society faces resource constraints and political obstacles. Technology can obscure as well as reveal. These limitations show that sustainability governance is not a frictionless system, but a contested arena shaped by power imbalances, institutional weaknesses, and political economy dynamics.

Nevertheless, despite these constraints, sustainability accounting remains a critical intervention. It shifts the system from one in which externalities are invisible and unchallenged to one in which they are publicly documented, debated, and increasingly regulated. The model, therefore, positions sustainability accounting as a necessary, though not sufficient, condition for redirecting the logic of self-interest towards outcomes that protect the bread eater and preserve the habitat.

6. Who will save the bread eater?

The preceding sections have shown that the logic of non-benevolence creates structural vulnerabilities for the bread eater, particularly in a global economy where externalities are pervasive and institutional protections are uneven. This section shifts from diagnosis to agency by examining the actors capable of mitigating these harms and restoring a measure of justice and ecological stability. Because the bread eater often lacks power, voice, and informational advantage, protection requires institutions with regulatory authority, corporations with operational control, civil society actors with mobilising capacity, and technologies that enable new forms of oversight. The sustainability era,

therefore, requires an expanded coalition of governance actors, none of whom can independently counteract the systemic harms produced by contemporary capitalism.

6.1. The role of the state

The state remains the most decisive actor in safeguarding the bread eater, as it alone possesses the authority to set the legal boundaries of economic activity. Markets allocate resources within a regulatory environment constructed by public institutions. In the absence of state intervention, firms face strong incentives to ignore or externalise social and environmental costs. Mandatory disclosure regimes are among the most important contemporary tools through which the state can reshape corporate behaviour. The creation of the International Sustainability Standards Board (ISSB) and its IFRS S1 and S2 standards reflects a coordinated effort to harmonise global sustainability reporting. These standards build on earlier voluntary frameworks but establish a mandatory baseline that compels firms to disclose material information on climate risk, governance, strategy, and performance (IFRS Foundation, 2023). Although the ISSB has been criticised for its investor-oriented focus and insufficient representation of the bread eater and their habitat, it provides an important starting point for state-driven accountability and transparency frameworks.

Similarly, the European Union's Corporate Sustainability Reporting Directive (CSRD) is among the most ambitious regulatory interventions in sustainability reporting to date. By requiring a broad range of companies to disclose detailed metrics on environmental, social, and governance impacts under the European Sustainability Reporting Standards (ESRS), the CSRD shifts sustainability information from a corporate narrative exercise to a legally enforceable obligation (La Torre et al., 2020). In the United States, the Securities and Exchange Commission's climate disclosure rules move in a similar direction, framing climate risk as a financial risk that requires systematic disclosure. Mandatory sustainability reporting limits firms' ability to conceal harmful practices and enhances the information environment in which investors, communities, and regulators operate.

Beyond disclosure, the state protects the bread eater through fiscal and policy instruments that internalise externalities. Carbon pricing, whether through taxes or emissions trading, translates environmental harm into a financial cost and strengthens incentives for firms to adopt low-carbon strategies. Research indicates that well-designed carbon markets can shift investment patterns and reduce emissions, although their effectiveness depends on political commitment and the stringency of caps (Calel & Dechezleprêtre, 2016). Ecological taxation, including levies on pollution, resource extraction, and waste generation, operates similarly by discouraging harmful practices and funding environmental restoration.

Social protection systems also play an important role in safeguarding the bread eater. As climate risks intensify and labour markets become more precarious, welfare systems, unemployment insurance, health coverage, and public safety nets mitigate the vulnerabilities generated by corporate externalities. Stiglitz (2019) argues that inclusive institutions and strong welfare states are essential to countering the inequalities produced by modern capitalism. In this sense, the state operates not only as a regulator but also as an insurer of last resort, buffering citizens against harms that markets fail to prevent.

6.2. *The role of the corporation*

Although the state can set boundaries, corporations are central to determining whether the bread eater is protected or harmed. The modern corporation commands immense resources, coordinates vast supply chains, and shapes environmental and social conditions through its operational and strategic choices. To safeguard the bread eater, corporations must move beyond the narrow constraints of shareholder primacy and adopt governance models that recognise multiple stakeholders. Stakeholder theory, which emphasises the interdependence between firms and their broader constituencies, has gained traction in both academic and practitioner circles, particularly as evidence accumulates that long-term value creation depends on sustainable relationships with workers, communities, and ecosystems (Freeman et al., 2010).

Integrated thinking, the intellectual foundation of integrated reporting, offers another avenue for corporations to internalise sustainability considerations. It encourages boards and executives to recognise that financial, social, manufactured, and natural capitals are interconnected and that long-term value cannot be generated by depleting the systems on which the organisation depends (Adams, 2015). Integrated thinking, therefore, seeks to re-embed corporate strategy within socio-ecological systems, aligning business models with planetary and social boundaries.

Impact-weighted accounting is a more radical step in the same direction. Pioneered by Serafeim and Trinh (2020), it seeks to quantify and monetise the social and environmental impacts of business activity and integrate them directly into financial statements. This approach aims to collapse the artificial separation between profit and impact by recognising negative externalities as costs. If firms were required to recognise their full ecological and social footprint, many currently profitable business models would appear far less attractive. Impact-weighted accounting, therefore, is an institutionalised mechanism for making the bread eater visible within corporate decision-making and for compelling managers to confront the broader consequences of their actions.

6.3. *The role of consumers and civil society*

Consumers are often presented as key drivers of corporate sustainability because they can reward ethical firms and punish harmful ones. This view, however, tends to overestimate the power of individual choice and underestimate structural inequality. Ethical consumption presupposes disposable income, access to reliable information, and the capacity to prioritise long-term environmental concerns over short-term economic needs. For many bread eaters, particularly in low-income contexts, these assumptions do not hold. As Micheletti and Stolle (2012) noted, consumer activism remains constrained by socioeconomic factors and cannot be a substitute for robust regulatory systems.

Civil society plays a more formidable role. Social movements, non-governmental organisations, trade unions, and grassroots organisations amplify marginalised voices and challenge harmful corporate behaviour. Through campaigns, litigation, boycotts, and media engagement, these actors create reputational risks that compel firms to address environmental and social issues. Shareholder activism, driven by institutional investors and socially responsible investment funds, has also become an increasingly potent tool for influencing corporate governance. Activist shareholders file resolutions, demand transparency, and engage directly with boards to push for stronger ESG performance (Goranova & Ryan, 2014).

Public accountability is strengthened when civil society actors can use disclosed sustainability data to expose inconsistencies, greenwashing, or harmful practices. The combination of social mobilisation and enhanced transparency creates a feedback loop in which firms face mounting pressure to align their actions with societal expectations. Civil society thus serves as the system's moral memory, reminding corporations and policymakers of the lived realities of the bread eater and the fragility of the habitat.

Nevertheless, the multi-actor governance structure outlined above is not without internal tensions. The interests of the actors charged with protecting the bread eater do not always align and may, in significant respects, conflict. Investor-led sustainability governance, for example, tends to define materiality through financial criteria, prioritising risks that affect enterprise value over impacts on communities or ecosystems that have no direct financial consequence for the firm. This single materiality orientation, characteristic of the ISSB framework, may protect shareholders while sidelining bread eaters whose harms are financially immaterial to the reporting entity. The EU's double materiality approach under the CSRD partially addresses this asymmetry by requiring firms to report on both inward financial risks and outward societal impacts, but its implementation remains contested and jurisdictionally bounded. Similarly, state-led regulation may prioritise economic competitiveness over ecological protection when political incentives favour short-term growth. Civil society organisations, although morally credible, may lack the technical expertise or institutional access to participate effectively in standard-setting processes. Acknowledging these power conflicts is essential to avoid presenting the governance architecture as a harmonious system of complementary actors. In practice, the protection of the bread eater depends not only on the presence of these actors but also on the distribution of power among them and on the institutional mechanisms used to adjudicate conflicts.

6.4. The role of technology

Technology introduces a new dimension to the governance architecture for protecting the bread eater. Advances in artificial intelligence, remote sensing, satellite imagery, and real-time monitoring have expanded the capacity to observe corporate impacts with unprecedented precision. AI-powered environmental monitoring systems can detect illegal deforestation, emissions anomalies, water contamination, and biodiversity loss more quickly than traditional reporting systems. These capabilities reduce information asymmetry and limit firms' ability to conceal harmful practices.

Blockchain technology, with its ability to create immutable, traceable records, can enhance transparency across global supply chains. It enables stakeholders to verify the origin of raw materials, track labour conditions, and monitor products' environmental footprints. When properly implemented, blockchain reduces opportunities for fraud, strengthens accountability, and gives consumers and regulators a clearer picture of the conditions under which goods are produced (Saber et al., 2019).

Big data analytics complements these developments by transforming large volumes of environmental, social, and governance information into actionable insights. Investors use ESG datasets to assess risk exposure. Regulators use them to identify patterns of non-compliance. Communities use them to document harm. Corporations use them to benchmark performance and identify operational inefficiencies. Technology, therefore, serves as an enabling infrastructure that enhances the visibility, verifiability, and interpretability of sustainability information.

Taken together, these technological tools mark a broader epistemic shift in sustainability governance. They expand society's surveillance capacity, strengthen the informational foundations of

accountability, and create new possibilities for enforcing environmental and social norms in real time. They do not replace the state, corporations, or civil society, but they augment their capacity to act in defence of the bread eater.

7. Who will save the habitat?

The habitat faces pressures that exceed those faced by the bread eater as an individual. While the bread eater can be shielded by labour protections, social policies, and sustainability disclosures, the habitat requires systemic interventions to preserve the integrity of the Earth system. Climate change, biodiversity loss, freshwater depletion, and ecosystem instability have reached a scale at which piecemeal approaches are no longer adequate. Saving the habitat is therefore a collective endeavour involving ecological accounting, responsible corporate stewardship, and governance systems capable of acting across jurisdictions and generations.

7.1. *Ecological accounting and planetary boundaries*

A foundational step in protecting the habitat is to integrate environmental constraints into economic decision-making. Traditional economic systems assume continuous growth in production and consumption, treating natural resources as inputs whose depletion will be mitigated by innovation or substitution. Contemporary science challenges this assumption. Research on planetary boundaries shows that the Earth operates within biophysical limits, and exceeding them threatens the stability of climate, ecosystems, and global life-support systems (Rockström et al., 2009; Steffen et al., 2015). These boundaries are not theoretical abstractions; they are measurable thresholds. Exceeding thresholds for atmospheric carbon concentrations, nitrogen and phosphorus flows, land-use changes, and biodiversity integrity may trigger nonlinear and potentially irreversible environmental change.

Ecological accounting embeds these limits within economic systems by quantifying the contributions of natural capital and the impacts of human activity on ecological resilience. Natural capital accounting frameworks measure ecosystem stocks, such as forests, wetlands, and coastal zones, as well as the flows of services they provide. The United Nations' System of Environmental-Economic Accounting, Ecosystem Accounting (SEEA-EA), is one of the most advanced examples of this approach, providing standards for integrating ecosystem values into national accounts (United Nations, 2021). When implemented rigorously, SEEA-EA enables policymakers to observe how economic decisions affect ecosystem capacity and to model the long-term consequences of resource depletion.

At the corporate level, emerging frameworks such as the Taskforce on Nature-related Financial Disclosures (TNFD) and the Science Based Targets Network (SBTN) are designed to operationalise ecological limits in business decision-making. TNFD aims to ensure that firms identify, assess, and disclose nature-related risks across biodiversity, water systems, and ecosystem integrity. SBTN complements this by providing methodologies for setting quantifiable targets that align corporate behaviour with ecological thresholds. These frameworks aim to shift the firm's strategic horizon from short-term profitability to the long-term viability of the natural systems on which all production ultimately depends.

Together, planetary boundaries and ecological accounting mark a structural reorientation of the economic system. They shift it away from anthropocentric growth paradigms and towards a model that recognises human wellbeing as inseparable from ecological resilience.

7.2. *Corporate responsibility for ecological stewardship*

Although ecological accounting provides the conceptual scaffolding, the practical work of protecting the habitat requires direct corporate stewardship. Firms are among the most influential actors shaping ecosystem conditions through emissions, land-use decisions, resource extraction, and supply-chain practices. Ecological stewardship, therefore, demands substantive commitments rather than symbolic gestures.

One critical dimension is the adoption of credible net-zero pathways. Many corporations have announced net-zero targets, but these vary widely in quality, coverage, and scientific coherence. Credible pathways require absolute emissions reductions, clear interim milestones, independent verification, and alignment with the 1.5 °C trajectory outlined by the Intergovernmental Panel on Climate Change (IPCC, 2021). Firms that adopt such approaches demonstrate a willingness to transition their business models rather than rely primarily on offsets or accounting manoeuvres. Transition plans grounded in science-based methodologies serve as concrete signals of ecological responsibility.

Biodiversity risk assessment is another essential aspect of stewardship. Unlike carbon emissions, biodiversity impacts are spatially specific and context-dependent, requiring firms to map their interactions with land, water, and species in ways that capture ecological complexity. Tools such as the Integrated Biodiversity Assessment Tool (IBAT) and TNFD's LEAP approach, which involve identifying, evaluating, and preparing for nature-related risks, enable companies to understand their dependencies on nature and the ecological consequences of their operations. Effective assessment must be followed by commitments to habitat restoration, including reforestation, wetland rehabilitation, and regenerative agriculture. Research shows that restored ecosystems often exhibit greater resilience and productivity, delivering both ecological and economic benefits (Benayas et al., 2009).

Corporate stewardship, therefore, involves more than compliance with environmental regulations. It requires embedding ecological limits into the core architecture of business models, redesigning value chains, and accepting that long-term value depends on maintaining the integrity of natural systems. A firm that degrades its ecological foundations ultimately undermines its own viability and the well-being of the bread eater.

7.3. *Collective governance for a shared planet*

No single actor, whether state, corporation, or civil society, can safeguard the habitat alone. The planetary scale of ecological risks demands governance arrangements that are multi-level, multi-actor, and cross-border. Collective governance involves interaction among international institutions, national governments, firms, scientists, Indigenous communities, civil society, and financial actors. Multi-stakeholder governance represents a growing paradigm in sustainability, bringing diverse actors together to co-design rules, monitor compliance, and create shared accountability frameworks. Initiatives such as the Paris Agreement illustrate this principle: nation-states commit to emissions targets, but firms, investors, and subnational entities also play critical roles in implementation. Global biodiversity frameworks, including the Kunming-Montreal Global Biodiversity Framework, similarly rely on the mobilisation of actors across public and private sectors.

Cross-border accountability mechanisms are essential because environmental harms do not respect national boundaries. Transboundary air pollution, ocean acidification, climate change, and

biodiversity loss require governance structures capable of addressing ecological interdependence. International law and treaties provide part of this architecture, but they are often weakened by geopolitical tensions and enforcement challenges. As Biermann et al. (2012) argued, effective planetary stewardship requires novel forms of Earth system governance characterised by accountability, legitimacy, and adaptive capacity.

Corporate actions must also be subject to global oversight. Many firms operate across multiple jurisdictions with varying regulatory regimes. Without harmonised international standards and cooperative enforcement, corporations may shift harmful activities to regions with weaker protections. Global frameworks such as the GRI and the ISSB help reduce these gaps by establishing common disclosure expectations, while financial actors, including global banks and asset managers, exert influence across borders through lending and investment decisions.

Collective governance thus constitutes the institutional backbone for protecting the habitat. By coordinating the efforts of states, corporations, civil society, and international organisations, it creates a system in which ecological limits become binding constraints rather than optional considerations. Saving the habitat is fundamentally a collective project, driven by institutions capable of operating at the same scale as the ecological crises they seek to address.

The aspiration to embed ecological thresholds into accounting systems is both scientifically grounded and normatively compelling, yet significant practical and methodological barriers remain. Quantification poses a fundamental challenge because ecological processes operate through complex, nonlinear interactions that resist reduction to single metrics, and because the spatial specificity of biodiversity impacts complicates aggregation at the firm or portfolio level. Valuation presents further difficulties. Monetising ecosystem services can help communicate ecological costs in economic terms, but it also risks commodifying nature in ways that distort conservation priorities and understate the value of ecological functions for which no market substitutes exist. Assurance of ecological data introduces additional complications, as auditors often lack the ecological expertise required to verify claims about biodiversity outcomes, carbon sequestration rates, or ecosystem resilience. The TNFD and SBTN frameworks are promising, but they remain in relatively early stages of adoption, and their methodologies are still subject to scientific debate and revision. These barriers do not invalidate the project of ecological accounting. They caution against treating it as an accomplished fact rather than a frontier of institutional innovation requiring sustained interdisciplinary collaboration among accounting scholars, ecologists, earth system scientists, and governance researchers.

8. Policy recommendations

The preceding analysis shows that contemporary market structures lack the internal mechanisms necessary to safeguard either the bread eater or the habitat. Self-interest remains the core driver of economic activity, but externalities will continue to accumulate and threaten human wellbeing unless robust institutions embed social and ecological limits into corporate behaviour. The policy recommendations presented here seek to reconfigure the governance environment in which firms operate, ensuring that sustainability becomes a structural feature of economic systems rather than a voluntary or reputational concern.

A central priority is the strengthening of mandatory sustainability disclosure regimes. Although the emergence of the ISSB's IFRS S1 and S2 standards marks an important advance, their effectiveness depends on adoption, enforcement, and integration within national legal systems. Policymakers should

move towards broad implementation of these standards, while aligning ISSB requirements with regional frameworks such as the EU's CSRD and the ESRS. Harmonisation reduces reporting burdens for firms operating globally and improves the comparability of sustainability data across jurisdictions (La Torre et al., 2020). At the same time, regions should retain scope to design government-led compulsory disclosure requirements that reflect their specific jurisdictions, industrial structures, and development contexts, consistent with the pluriversality of sustainability accounting. To prevent selective reporting, governments should require assurance of sustainability disclosures by independent practitioners with appropriate expertise.

Policy intervention must also address the economic structures that reward harmful behaviour. Fiscal policies such as carbon pricing and ecological taxation are necessary to internalise environmental costs. Carbon taxes and emissions trading systems should be calibrated to reflect scientific assessments of required emissions reductions, while resource extraction taxes should discourage overexploitation and finance ecosystem restoration. Empirical research shows that such policies, when designed stringently, can reduce emissions and shift production patterns (Calel & Dechezleprêtre, 2016). However, ecological taxation must be paired with social protection measures to mitigate regressive impacts on low-income households.

Corporate law reform is another essential component. Legal frameworks rooted in shareholder primacy constrain boards to prioritise short-term financial returns. Legislators should adopt stakeholder-oriented governance models that require directors to consider the interests of workers, communities, and the environment alongside shareholders. Jurisdictions such as the United Kingdom, through Section 172 of the Companies Act, and parts of the European Union have begun to move in this direction, but more explicit legal obligations are needed to align corporate purpose with sustainability.

Financial regulators should also integrate sustainability risks into prudential standards. Central banks and financial supervisors increasingly recognise that climate change poses systemic financial risks (Network for Greening the Financial System, 2020). Stress tests, capital requirements, and disclosure expectations should incorporate climate and biodiversity risks to ensure that financial institutions allocate capital in ways that support ecological and social stability.

Finally, policy must support technological infrastructure for sustainability governance. Investments in environmental monitoring systems, data platforms, and digital traceability tools enhance the capacity of regulators, civil society, and the public to hold firms accountable. These technologies can also reduce compliance costs for firms and improve the accuracy of sustainability data.

Policy reform must therefore operate across legal, fiscal, institutional, and technological domains. Protecting the bread eater and the habitat requires a governance ecosystem in which sustainability is embedded as a binding constraint rather than treated as an aspirational ideal.

Among these recommendations, two warrant prioritisation because they derive directly from the conceptual model advanced in Section 5. The first is the universal adoption and rigorous enforcement of mandatory sustainability disclosure standards, which corresponds to the model's transparency mechanism. Without comprehensive, comparable, and assured sustainability information, the causal chain from disclosure to stakeholder pressure and behavioural change cannot be activated. Policymakers should therefore focus on closing the enforcement gap that currently separates the formal requirements of frameworks such as the ISSB and CSRD from the actual quality and reliability of reported data. Concrete measures include establishing independent sustainability assurance oversight bodies, mandating sector-specific metrics that reduce managerial discretion, and imposing meaningful

penalties for material misstatement or omission. The second priority is reforming corporate governance law to impose stakeholder-inclusive fiduciary duties, which corresponds to the model's pressure mechanism. Legal obligations requiring directors to consider and demonstrably respond to the interests of workers, communities, and ecosystems would institutionalise the accountability pressures that the model identifies as essential for translating transparency into behavioural correction. These two priorities are mutually reinforcing. Mandatory disclosure provides the informational basis for stakeholder engagement, while governance reform ensures that firms are legally required to respond to the pressures that disclosure generates.

9. Implications for research and future studies

The conceptual model articulated in this paper opens several pathways for future empirical and theoretical research. First, rigorous empirical studies are needed to assess the behavioural effects of sustainability accounting. Although theory suggests that transparency alters corporate decision-making through reputational and regulatory pressures, the magnitude and consistency of these effects remain underexamined. Researchers should investigate whether mandatory disclosures under frameworks such as the ISSB and CSRD lead to measurable reductions in emissions, improvements in labour conditions, or shifts in capital allocation.

Second, future research should examine the institutional dynamics through which sustainability disclosures translate into stakeholder pressure. Investors, regulators, civil society, and consumers respond to sustainability information in heterogeneous ways. The relative influence of these actors varies across sectors, jurisdictions, and cultural contexts. Comparative studies could illuminate why sustainability reporting induces change in some settings but not in others, and what combinations of institutional strength, media scrutiny, and civil society mobilisation produce effective accountability.

Third, the global distribution of externalities requires greater attention. Although much sustainability accounting research has focused on developed economies, many of the most severe harms of climate change, pollution, and ecological degradation occur in the Global South. Scholars should investigate how sustainability governance operates in contexts with weak institutions, limited enforcement capacity, and high vulnerability to external shocks. Understanding these dynamics is crucial for developing frameworks that protect bread eaters in diverse socio-economic settings.

Fourth, further research is needed on integrating ecological limits into accounting frameworks. Planetary boundaries, biodiversity thresholds, and ecosystem tipping points pose methodological challenges for measurement, monetisation, and auditability. Interdisciplinary work bridging accounting, ecology, earth system science, and public policy is essential. Researchers should explore how ecological accounting tools such as SEEA-EA, TNFD, and SBTN can be operationalised within corporate systems, and how ecological metrics can be integrated into financial decision-making.

Finally, future studies should examine whether alternative governance structures, such as benefit corporations, cooperatives, or mission-oriented enterprises, produce different patterns of externality generation compared with traditional shareholder-driven firms. Understanding the organisational determinants of sustainability performance may reveal institutional designs capable of aligning corporate behaviour with the protection of the bread eater and the habitat.

In summary, the conceptual argument advanced in this paper calls for an interdisciplinary, empirical, and globally attentive research agenda capable of reimagining the role of accounting and governance in the sustainability era. Several testable propositions can be derived from the conceptual

model. Proposition 1: Mandatory sustainability disclosure regimes, such as the CSRD and ISSB, are associated with measurable reductions in corporate externalities, as proxied by emissions intensity, pollution incidents, or labour rights violations, relative to voluntary disclosure regimes. Proposition 2: The behavioural effects of sustainability disclosure are moderated by institutional factors, specifically enforcement capacity, assurance quality, and the presence of organised civil society actors capable of mobilising pressure on reporting firms. Proposition 3: Sustainability governance produces differential outcomes across jurisdictions and development contexts; specifically, the transparency–pressure–change pathway operates less effectively where institutional capacity is low and corporate political influence is high, as in many Global South settings. Proposition 4: Firms operating under stakeholder-inclusive governance structures, including benefit corporations, cooperatives, and mission-driven enterprises, exhibit lower rates of externality generation than shareholder-primacy firms, controlling for sector and scale. These propositions are amenable to empirical testing through quasi-experimental research designs, difference-in-differences analyses exploiting regulatory changes, and comparative case studies across institutional contexts. Evidence confirming or challenging these propositions would directly refine the conceptual model and inform policy design.

10. Conclusions

This paper has re-examined Adam Smith’s principle of non-benevolence through the lens of contemporary sustainability challenges, situating the baker, the bread eater, and the habitat within a global economic system characterised by unprecedented ecological pressures, informational asymmetries, and institutional weaknesses. Smith’s insight that economic activity is driven by self-interest remains valid, but the moral and institutional scaffolding that once constrained self-interest has largely dissolved under the forces of industrialisation, globalisation, and financialisation.

The analysis demonstrates that self-interest, when operating in unregulated or weakly regulated environments, predictably generates externalities that undermine social wellbeing and destabilise ecological systems. These harms disproportionately affect vulnerable bread eaters, including workers, communities, consumers, and future generations, who lack the power to influence corporate behaviour. The habitat, the ecological foundation upon which all economic life depends, faces existential risks that cannot be resolved by voluntary action alone.

The conceptual model in this paper illustrates how sustainability accounting intervenes in the causal chain linking economic self-interest to ecological and social harm. By making invisible externalities visible, sustainability accounting strengthens stakeholder pressure, regulatory oversight, and corporate accountability. Yet accounting alone cannot resolve systemic sustainability challenges. Protecting the bread eater and the habitat requires a coalition of actors: states that impose robust regulatory frameworks, corporations that adopt ecological stewardship, civil society that mobilises and monitors, and technologies that enhance transparency and enforcement capacity.

Ultimately, safeguarding the bread eater and the habitat is not a peripheral concern. It is a fundamental requirement for the survival of economic systems themselves. Markets cannot function on a planet whose life-support systems are destabilised, nor can societies flourish when inequality, environmental degradation, and intergenerational injustice become structural features of economic life. The sustainability era, therefore, calls for a reinvention of the institutional infrastructure surrounding

self-interest, one that aligns economic activity with the moral sentiments and ecological boundaries that Smith understood as essential to human flourishing.

In precise terms, the paper's central scholarly contribution is twofold. First, it advances a conceptual model that traces the causal chain from economic self-interest, through the production of externalities, to social and ecological harm, identifying sustainability accounting as the institutional mechanism capable of interrupting this chain through transparency, stakeholder pressure, and behavioural correction. This model integrates insights from Smithian moral philosophy, political economy, and earth system science in a way not previously articulated in the accounting literature. Second, it introduces and develops the bread eater and habitat as normative-analytical constructs that reframe the scope of sustainability accounting beyond financial materiality, positioning it as a governance mechanism for protecting those constituencies and systems that bear the costs of corporate self-interest without adequate voice or institutional protection.

Use of AI tools declaration

The authors declare they have not used Artificial Intelligence (AI) tools in the creation of this article.

Conflict of interest

The author declares no conflicts of interest in this paper.

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