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Investing to reconnect financial value with people, nature, and the real economy

AN ITERATIVE BLUEPRINT FOR CAPITAL MARKETS ACTORS, POLICYMAKERS, AND REGULATORS

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BEYOND BRETTON WOODS

Earth 4All

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Acknowledgements

This paper was written through the collaborative leadership of several organisations, including the Predistribution Initiative (PDI), Africa investor, (Ai) and Beyond Bretton Woods (BBW). More about each organisation and their related work to the paper may be found below.

The Predistribution Initiative (PDI)

Delilah Rothenberg is a Co-founder and the Executive Director of the Predistribution Initiative (PDI). PDI is a non-partisan, multistakeholder non-profit that works with institutional investors to co-create improved investment structures and practices that better value nature and people, thereby unlocking pathways to share more wealth and influence with workers and communities. PDI believes that this is essential to address systemic and systematic risks like inequality, biodiversity loss, and climate change, which manifest as financial risks in markets and investors' portfolios.

Africa investor (Ai)

Dr. Hubert Danso is the CEO and Chairman of Africa investor (Ai). Ai is an institutional investment platform for pension funds, sovereign wealth funds, family offices and long-term investors working in Africa and emerging markets. Through the Ai Academy, Ai provides strategic insights and helps investment leaders and policymakers to understand the impacts of systemic multilateral risks on the evolution of investing in Africa and emerging markets.

Beyond Bretton Woods (BBW)

Frank Van Gansbeke is a Co-founder of Beyond Bretton Woods (BBW). The BBW initiative is a multi-disciplinary international collective, comprised of global experts and academics, intended to design transformative, plug-and-play type financial solutions and disruptive policy recommendations to address both structural finance fault lines as well as crisis challenges affecting the international monetary order and society at large.

Contributors

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Executive Summary

Today's global economy has become increasingly financialised. Driven in part by short-term investment mandates focused solely on the value of financial capital, this trend has in turn undervalued people and nature, exacerbating systemic global issues from climate change and biodiversity loss to socioeconomic inequality and geopolitical conflict. The disconnect between the value of financial capital relative to real-world human, social, and natural capital results in a growing disconnect between financial markets and the real economy. Results can be witnessed in record-high equity valuations – particularly in US markets – and global debt levels, even as our natural habitat deteriorates, the climate changes, and inequality grows. Earth and humanity's balance sheet are not in balance. What happened, and how can we fix it?

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Reform is urgently needed, but practical steps are required with appropriate time and resources allocated by global actors, including government and the private sector. This paper – a collaboration between Earth4All, the Predistribution Initiative (PDI), Beyond Bretton Woods (BBW), and Africa Investor (Ai) – charts an evolutionary path, focusing especially on the role that capital markets investors can play in building a more regenerative and inclusive economy that supports the long-term wellbeing of people and nature. It is intended to be a working blueprint, to be refined further with various market actors, policymakers and regulators, and their stakeholders.

Capital markets actors – or Non-bank Financial Intermediaries (NBFIs) – today comprise nearly half of global financial assets.[1] Among these investors, asset owners and allocators sit at the top of the "capital value chain" and influence activities and incentives across downstream actors, including asset managers and companies, who ultimately affect people's lives and our natural ecosystems. These investors are also profoundly exposed to the systemic and systematic risks brought to bear by our changing climate, widening wealth gaps, and diminishing trust in institutions – all of which are increasingly recognised as growing threats to financial and price stability. These actors thus have incentives to shift the way they allocate, price, and structure capital and engage with investees, policymakers, regulators, and field-building institutions to reduce negative externalities. Recognising that the tools developed for traditional approaches to finance are not fit for purpose, this paper proposes pathways for such actors to evolve.

Building on the 2022 report to The Club of Rome, *Earth for All: A Survival Guide for Humanity* and the work of the Earth4All initiative, this paper investigates the strong incentives that investors have for advancing systemic transformation, along with the root causes for why they are not yet pursuing systems change. These incentives are explored from both a risk management and opportunities perspective, underscoring key considerations for the investment community when moving away from the status quo. Given contemporary understandings of planetary boundaries, social norms, and tipping points, it is essential that financial analysis standards and tools evolve to more adequately value human, social, and natural capital. Such shifts in perception of value and what is at risk conceivably would result in meaningful changes to how risk and return are distributed across stakeholders and nature in a transaction.

Earth for All identifies five extraordinary turnarounds needed to enact meaningful systems change and break with the status quo, focused on eliminating poverty, reducing inequality, empowering women, transforming food systems, and achieving energy security. To leverage the recommendations and drive implementation of these turnarounds, the Earth4All team has commissioned a series of papers that speak to diverse, multidisciplinary audiences who play various roles in advancing change. This paper contributes to the existing body of work.

As part of the paper's recommendations, collaboration is essential, with institutional investors working alongside economists, business leaders, policymakers, and nonprofit partners to deliver systems change that can be both transformative and enduring. An inclusive, co-creative approach must be prioritised, building solutions in partnership with diverse stakeholders, including workers, consumers, and communities across geographies, levels of wealth and income, and cultural and political perspectives to ensure that those impacted are actively involved in designing next steps.

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This paper speaks to several key audiences, grouped into the following four categories, whose participation will be crucial to realising this vision, including:

- Institutional investor boards and executives
- Standard setters, ratings agencies, business schools, and service providers
- Investment teams, banks and other financial intermediaries
- Policymakers, regulators, and international organisations

The below four sets of interconnected and interdependent proposals are offered to each of these audiences to support them in working in tandem, ultimately enabling a future that returns and conserves broad-based value across stakeholder groups and nature everywhere.

1. Institutional investor boards and executives: align investment governance and incentive structures with the concept of intergenerational fiduciary duty

Investors – particularly asset owners and allocators such as pension funds, sovereign wealth funds, endowments, and large family offices – sit at the top of the capital value chain and influence actors in financial, corporate, sovereign, and sub-sovereign markets downstream through the ways that they: 1) allocate, price, and structure capital; 2) engage with investees; and 3) engage with policy makers, regulators, standard setters, and other intermediaries. Given this positioning and that financial markets - including capital markets - fuel the real economy, they have enormous potential for positive impact, but also can do harm.

Positive and negative impacts from market activity can also impact the economy, resulting in externalities. Externalities – particularly negative externalities – can accumulate to become systemic and/or systematic risks. Since large institutional investors are diversified across geographies, industries, and asset classes, their performance is heavily dependent on the health of overall financial markets, which is dependent on the health of the economy. These investors are thus increasingly recognising that it can be in their interest to reduce negative impacts and externalities and perhaps even pursue positive impacts and externalities to reduce system-level risks. Indeed, recent studies have demonstrated that considering sustainability impacts in investment decisions is consistent with fiduciary duties and, in many cases, required.[3]

To ensure the long-term success of their portfolios in an increasingly uncertain future, institutional investor boards and executives should:

- Discharge their fiduciary duties in line with evolving interpretation to encompass system-level risk and return, reflecting such recognition in their governing documents, including Investment Belief and Policy Statements; and,
- Align internal incentive structures across both stewardship and investment teams accordingly to allow for capital allocation, structuring, and pricing that reduces negative externalities and promotes positive externalities – for instance through reforming the use of traditional financial benchmarks.

2. Standard setters, ratings agencies, and researchers: support the realignment of financial value with real-world value

To support institutional investors in considering externalities in their decision-making, new methods of accounting and financial analysis are needed. Currently some tools exist to evaluate how environmental and social impacts may affect corporate financial performance. However, less exists regarding the value of human, social, and natural capital, as well as when systemic and systematic risks might affect a diversified portfolio and by how much. Risk-return assessments of investment opportunities do not consider system-level risks, and discount rates and traditional time value of money approaches value the present more than the future. This approach to valuation is in tension with the concepts of “sustainability” and “intergenerational fiduciary duty,” which refer to meeting the needs of both current and future generations.

Standard setters, ratings agencies, business schools, and researchers can support this evolution by advancing new accounting, valuation, and financial analysis methodologies that will allow companies and investors to more adequately value human, social, and natural capital, thereby incentivising a reduction in negative externalities and an increase in positive externalities. Ratings agencies can support new methodologies to integrate system-level risks relating to nature, climate, and people into their ratings.

These mechanisms should be grounded in planetary boundaries and social norms, thus keeping nature and society within balance and under thresholds which trigger harmful tipping points. They should also result in tools that evaluate the activities, influence, and contributions of both companies and investors so that each type of actor can work toward continuous improvement.

3. Investment teams, banks and financial intermediaries: leverage new meanings of risk, return, and value in the allocation, pricing, and structuring of capital

With new financial analysis tools, investment teams, banks, and financial intermediaries have new opportunities and incentives when it comes to allocating, pricing, and structuring capital in more regenerative ways.

Improved values of human, social, and natural capital can illuminate how it is not primarily financial capital which takes risk and creates value in a transaction. Recognising that human, social, and natural capital also take risk and create value, there can be less incentive to exploit nature, and more incentive to both consult and more adequately compensate workers and communities. For instance, workers in a company can earn equity ownership alongside investors and executives, thereby building their wealth, narrowing executive-to-worker pay ratios, and aligning incentives of all stakeholders. Communities who house infrastructure projects could also participate in equity ownership. Their voice and perspectives offer value which could also be integrated into governance structures and foster broader support for projects. In terms of nature, improved values are already shedding light on opportunities such as debt-for-nature swaps.

At the macroeconomic level, human, social, and natural capital can be supportive building blocks in shaping alternatives to GDP. These new understandings of value thus unlock the potential for change in the way financial capital is allocated, priced, and structured, paving the path toward a "predistributive economy." In this paradigm, investors factor the risks that people and nature take, and the value that they create, into investment decision-making, financial analysis, and the distribution of returns. This disincentivises negative impacts on people and nature, aligns financial return expectations with real world positive outcomes, and distributes more wealth and influence to workers and communities.

4. Policymakers, regulators, and international organisations: co-create an enabling policy and regulatory environment

While investors are beginning to evolve their practices to account for externalities and reframe value in decision-making, the risk of underperforming in the short term and "tragedy of the commons" dynamics have made change both incremental and limited in reach. Policymakers, regulators, and international organisations can play a key role in accelerating the change that is already underway by levelling the playing field.

There are notable global efforts by policymakers and regulators relating to "International Financial Architecture Reform (IFAR)" which largely focus on balancing power between sovereigns when it comes to public finance. However, IFAR discussions will be incomplete without specific consideration of the role of capital markets and identifying root causes of harmful practices that contribute to these imbalanced power dynamics. This is particularly the case given significant levels of sovereign debt held by private investors and capital markets more broadly which have been concentrating wealth and power in narrow segments of the market.[4]

As such, it would behove the effectiveness of IFAR dialogues to also include a focus on capital markets reform, supporting and reinforcing efforts as described in this paper. IFAR discussions could thus include:

- Establishment of mechanisms – perhaps with the coordination of central banks – to consider the values of human, social, and natural capital in setting the foundational cost of financial capital;
- Support improved clarity on intergenerational fiduciary duty and system-level or portfolio-level materiality (systemic and systematic factors that are financially material to a portfolio's performance), as well as corresponding data production and development of financial analysis tools and training;
- Incentivise multistakeholder governance and ownership models to facilitate broad-based wealth building and civic participation which can de-escalate polarisation and rebuild trust in institutions.

The collaboration of these four key audience groups is essential to delivering the systems change required to enact *Earth for All's* five extraordinary turnarounds. A key goal of this paper is to identify roadblocks in the investment flows needed to fund a sustainable and regenerative future – and to explore the role that capital markets actors across the ecosystem must play.

Importantly, the recommendations in this paper build from the work of the Predistribution Initiative (PDI), Beyond Bretton Woods (BBW), and Africa investor (Ai) agendas, weaving together several interconnected but independently complex topics that will ultimately require intentional, collaborative co-creation to fine-tune and implement solutions. As such, this paper can be thought of as a high-level roadmap or proposed blueprint and call to action for capital markets actors. It provides concrete recommendations as foundations to be further refined and implemented through a co-creation process to ensure a more inclusive future for all.

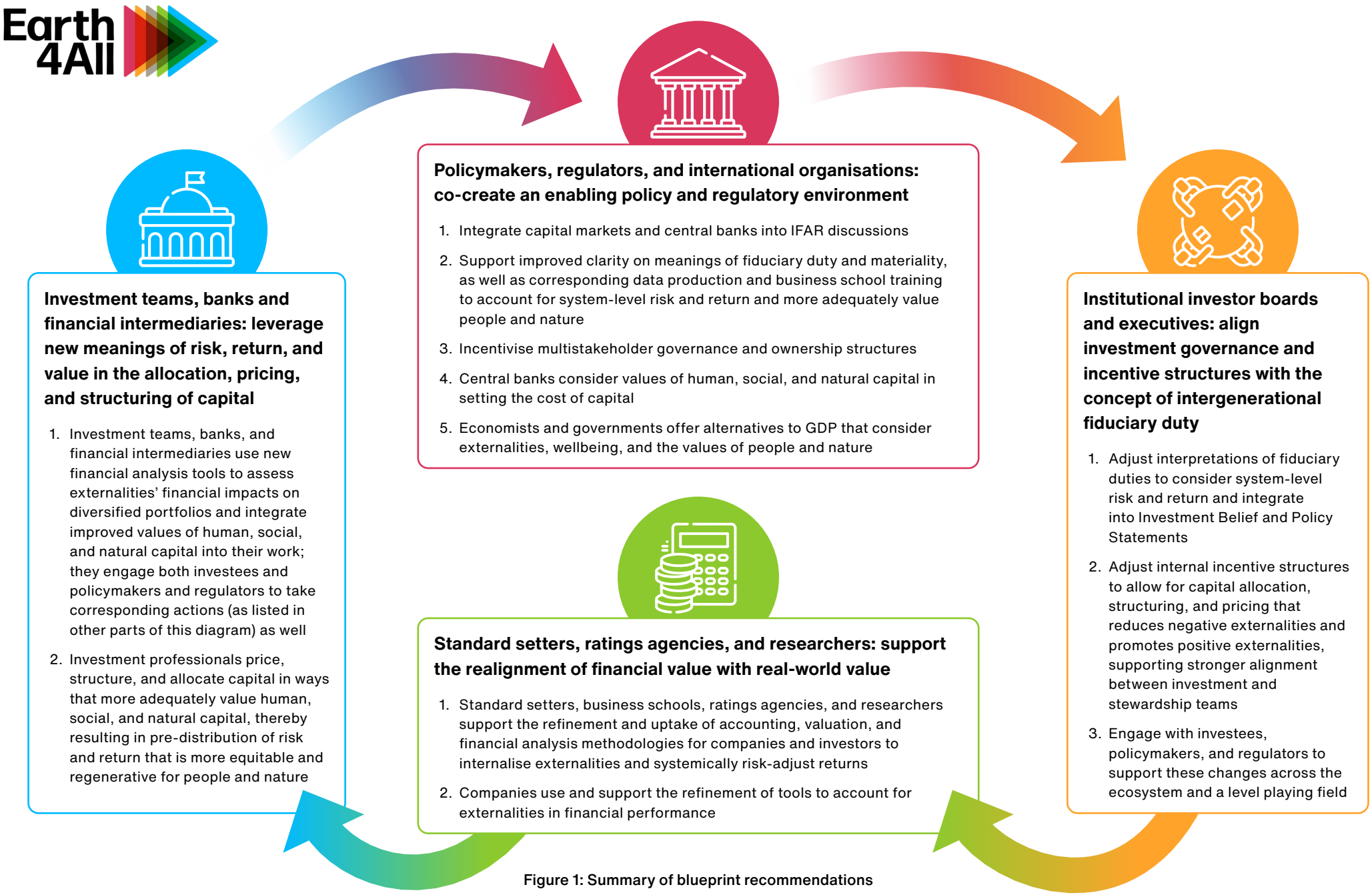


Figure 1: Summary of blueprint recommendations

Introduction

Reuniting financial markets with the real economy to support an Earth for All

> *"The environment and the economy are really both two sides of the same coin. If we cannot sustain the environment, we cannot sustain ourselves."*
>
> **Wangari Maathai**

In May 2020, The Economist featured the below image of "the market vs. the real economy" on its cover, portraying a growing divide between Wall Street and Main Street. The image underscored timely concerns that global financial markets, while seemingly strong, did not capture indicators of systemic, fundamental weakness in the real economy. Indeed, since mid-2020, and at the time of writing this paper, financial markets – particularly in the United States - have performed well despite growing market concentration, record global debt levels, inequality, climate change, and nature loss.[5]

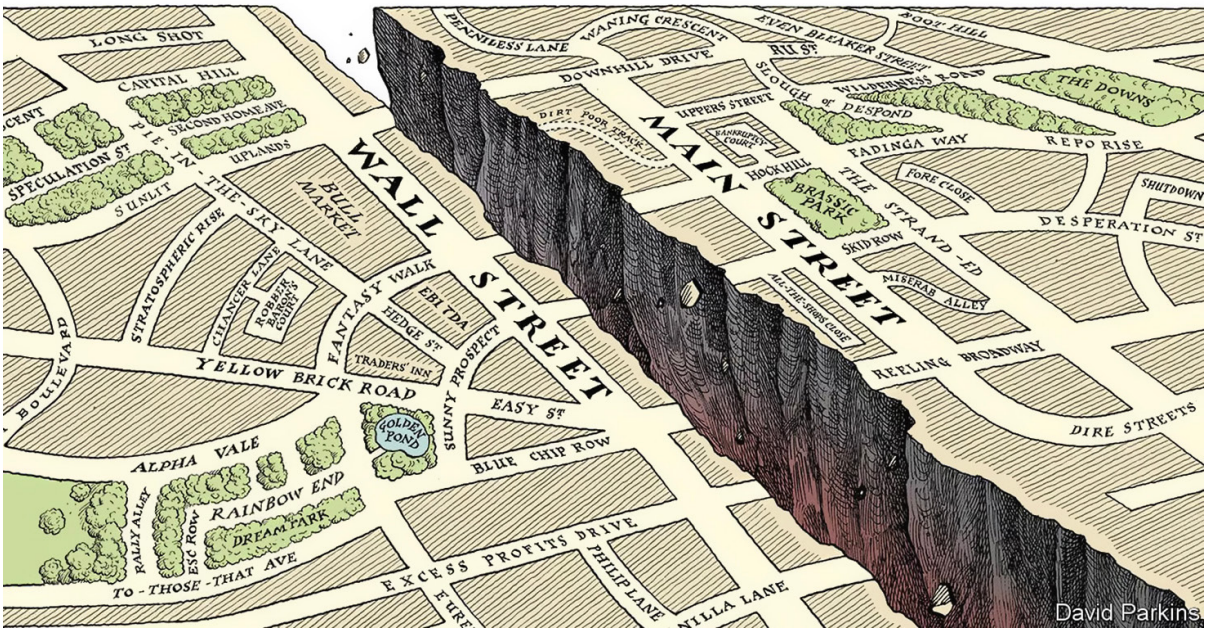


Figure 2: The Economist, 7 May 2020

That same year, The Club of Rome – together with the BI Norwegian Business School, Stockholm Resilience Centre and the Potsdam Institute for Climate Impact Research – convened practitioners across disciplines to explore approaches for accelerating the systems change needed to achieve wellbeing for all on a finite planet. The team leveraged real world

science with new economic thinking to develop bold proposals for change that embrace the interconnection of economy, society, and ecology, culminating in the 2022 publication of the book, *Earth for All: A Survival Guide for Humanity*. The book builds on the 1972 Report to The Club of Rome - *The Limits to Growth* - which outlined the risks of exponential economic and population growth relative to a finite supply of resources. Around the same time, in 1974, the Cocoyoc Declaration articulated inner limits of growth to satisfy human needs and outer limits that put the planet's physical integrity at risk.

Today, these concepts inform our understanding of the tipping points at which social and environmental systems can have cascading and sometimes irreversible impacts. They also form the foundations for Doughnut Economics, an economic model advanced by economist Kate Raworth, which balances essential human needs and planetary boundaries.[6]

Figure 3: Doughnut Economics illustrated

Concerningly, when assessing the nine planetary boundaries identified by the Stockholm Resilience Centre – including climate change, biosphere integrity, and land-system change – researchers found that six of these boundaries were breached as of 2023.[7] Along similar lines, more than halfway through the timeline to achieve the 17 Sustainable Development Goals (SDGs) defined by the UN, the world is on track to meet only around 17% of its targets.[8]

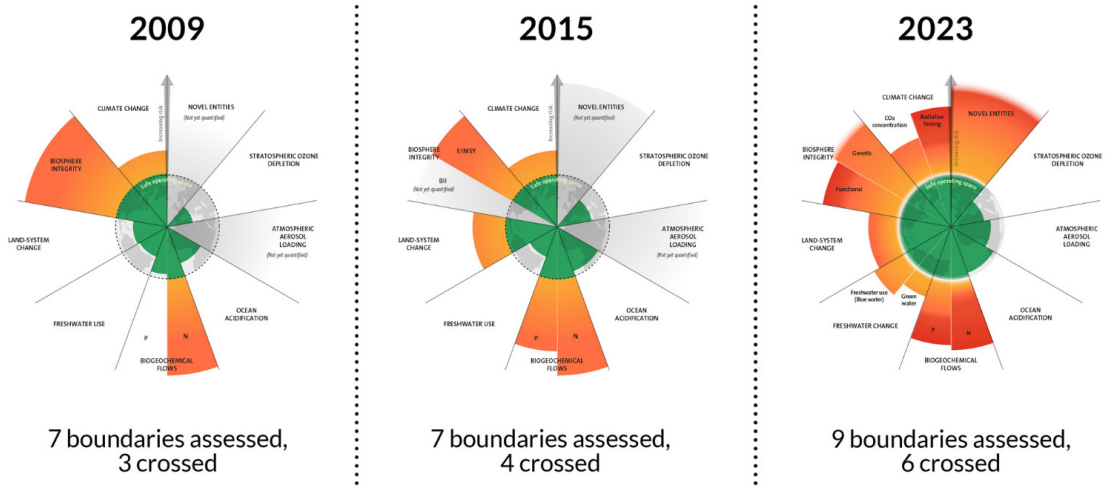


Figure 4: Planetary Boundaries over time

Source: Stockholm Resilience Center - Planetary Boundaries

As these boundaries are breached and targets fail to be met, humanity finds itself at an urgent and critical turning point. In an effort to demonstrate the transformation needed for the world to change course, Earth4All identifies five extraordinary turnarounds that "break with the trends of the past in significant ways and hold the potential to bring about real systems change":

- Eliminate poverty;
- Reduce inequality;
- Empower women;
- Transform food systems; and,
- Achieve energy security.

In particular, the first three turnarounds can guide practice on how to reform our capital markets to distribute risk and return more equitably across stakeholders and nature. The latter two turnarounds – which consider critical systems of production – are the core beneficiaries of a reformed system and key sectors to be financed as leverage points for systemic transformation. Earth4All models each of these turnarounds against two scenarios: "Too Little Too Late," which embodies the status quo, and the "Giant Leap," which proposes more significant change toward a more regenerative future.

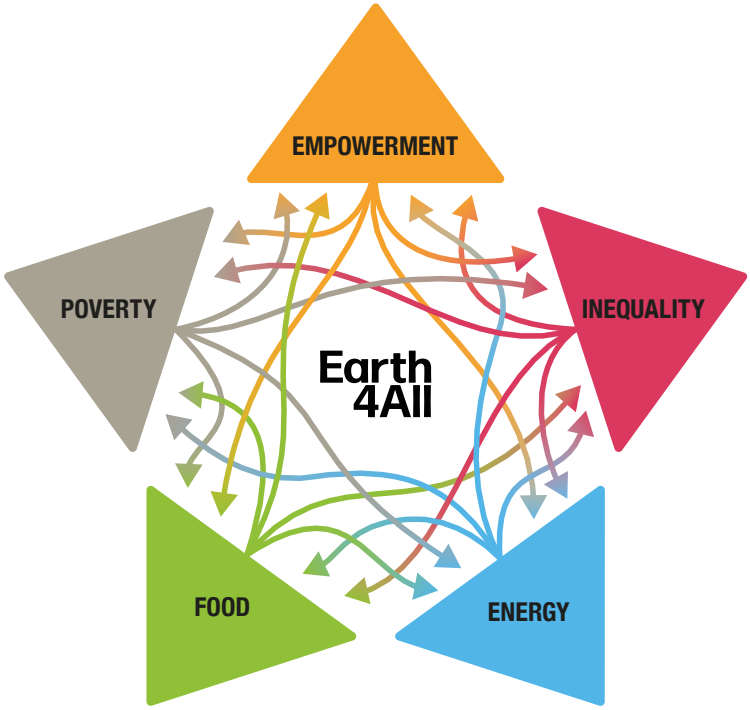


Figure 5: Earth4All's five extraordinary turnarounds

Wellbeing on a finite planet

In Earth 4All's Giant Leap scenario, the authors leverage the Wellbeing Economy Alliance's (WEAll) five design principles for a "wellbeing economy," which include:

- **Dignity:** everyone has enough to live in comfort, safety, and happiness.
- **Nature:** a restored and safe natural world for all life.
- **Connection:** a sense of belonging and institutions that serve the common good.
- **Fairness:** justice in all its dimensions at the heart of economic systems, and the gap between the richest and poorest greatly reduced.
- **Participation:** citizens are actively engaged in their communities and locally rooted economies.

Earth4All's Wellbeing Index builds upon and quantifies these principles to reveal important insights about local and global economic systems and to show that, without implementing urgent policy measures that address both social and environmental crises, human wellbeing will decline. Wellbeing is crucial to consider in the context of other key performance indicators such as Gross Domestic Product (GDP), since unlike GDP alone, wellbeing metrics articulate whether quality of life is improving or declining, along with who is most impacted.

The Organisation for Economic Co-operation and Development Centre on Well-being, Inclusion, Sustainability, and Equal Opportunity (OECD WISE) has developed a framework for policymakers and other key decision makers that "provides a compass to understand how human well-being is evolving in the context of the ecological and digital transitions, and what key actions are needed to support it." [9]

Earth4All estimates that the costs involved in enacting the five extraordinary turnarounds pale in comparison to the risks of inaction. Specifically, to achieve the Giant Leap scenario by 2050, an estimated 2-4% of global GDP per annum in funding will be needed. The Potsdam Institute for Climate Impact Research (PIK) estimates that climate change itself will result in global annual damages of approximately US$38 trillion – an income reduction of 19% relative to a baseline without climate impacts.[10]

The role of capital markets in achieving the five extraordinary turnarounds

> *"We do not inherit the earth from our ancestors; we borrow it from our children."*
>
> **Native American Proverb**

Our financial system is what fuels, or funds, global human activity and transformation. As indicated by the work of the World Benchmarking Alliance and others in the field of responsible, sustainable and inclusive investing, this system can therefore be a source of either great harm or great wellbeing.

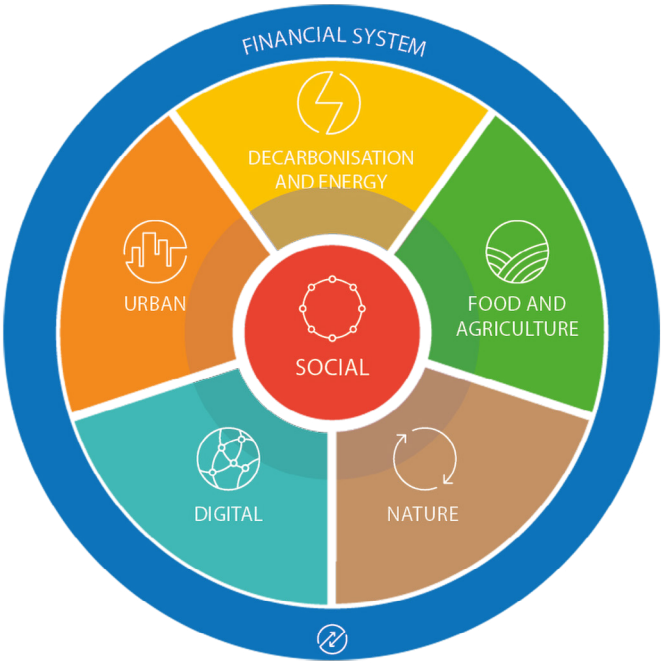


Figure 6: The World Benchmarking Alliance illustrates the role of the financial system across global challenges and solutions

When it comes to reducing financing gaps toward achieving Earth4All's Giant Leap scenario, capital markets investors play a critical role. Today, the capital markets community – or Non-bank Financial Intermediaries (NBFIs) – comprise nearly half of global financial assets.[11] They hold

growing influence in shaping economic activity. However, many of the tools and approaches to investing that have evolved with the growth of capital markets have also corresponded with a rise in financialisation, holding the world in the Too Little Too Late scenario.[12] This paper charts how we can move from a financialised economy to a regenerative economy, through the pursuit of regenerative financial tools.

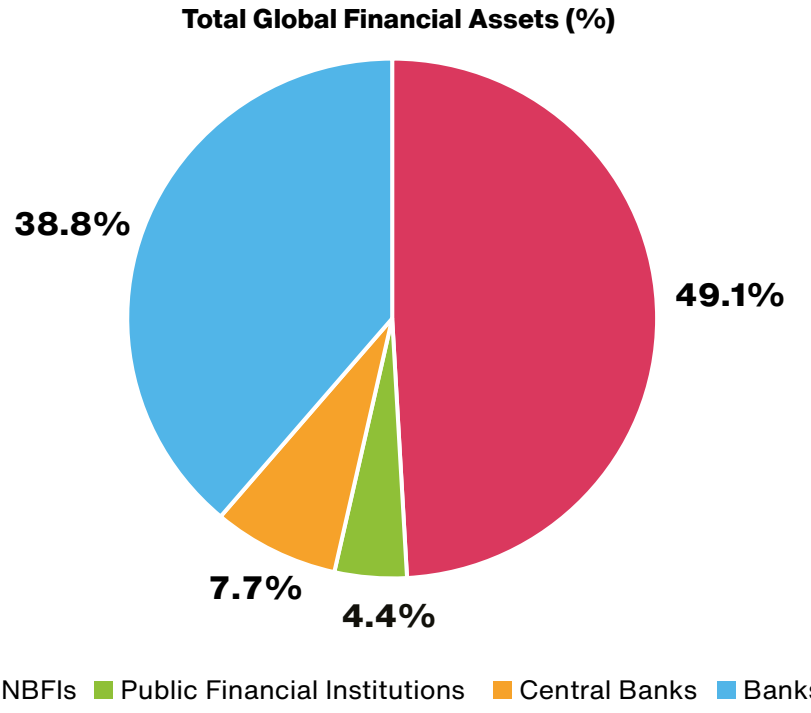


Figure 7: Non-bank Financial Intermediaries (NBFIs) comprise nearly half of global financial assets
Source: Financial Stability Board

What is regenerative finance?

As part of a separate white paper series, John Fullerton and the Capital Institute pose the question, "What would finance look like if it were to operate genuinely in service of healthy human communities, and without undermining the long-term health of the planet in the process?"[13] In other words, what does regenerative finance look like?

The Club of Rome[14] has identified three core principles that a regenerative system must embody, including that it must:

- Be directed by a purpose and accountable to the principle of supporting the economy in meeting the needs of people, society, and the planet;
- Favour integrated value over purely financial value as a whole system goal, and in policies, practices, reporting, and regulation;
- Require institutions to become active agents in a coherent and collaborative strategy centered on long-term value creation, embedded in a stakeholder-oriented governance.

Leveraging and building upon the existing body of Earth4All literature, this paper recommends potential paths forward for global capital markets leaders, including asset owners and allocators, asset managers, insurers, intermediaries, standard setters, international organisations, credit ratings agencies, other service providers, and field building organisations who seek to advance a more regenerative financial system. Further, in acknowledgement of widely recognised barriers to reform relating to "tragedy of the commons" and "prisoner's dilemma" dynamics, recommendations are also made for policymakers and regulators who can help level the playing field and enable more regenerative capital markets.

Ultimately this paper recognises that for policymakers and regulators to take action on lasting and effective solutions, the solutions must be co-created, with input, buy in, and support across constituency groups – including the private sector, labour, and communities, as well as across cultural and political perspectives. Thus, voluntary efforts and efforts that build bridges between groups which have become polarised will be essential.

Shifting from Too Little Too Late to the Giant Leap

> *"Money has no value in itself; its value is found in its use and the impact of its use upon others and the planet."*
>
> **Jed Emerson,**
> The Purpose of Capital: Elements of Impact, Financial Flows, and Natural Being

Earth4All's five extraordinary turnarounds – which represent "a new path to a sustainable world by 2050" – guide us toward the Giant Leap. But to achieve this scenario, these turnarounds need to be financed, not just with debt financing and bank lending – currently a strong focus of the development finance and International Financial Architecture Reform (IFAR) communities[15] – but with capital markets investment across asset classes and industries, as well as developed and developing localities. Yet to move from the status quo, we need to know where we are and what needs to change.

In The Club of Rome paper, *"From financing change to changing finance,"* six main barriers to change are identified, as illustrated below.

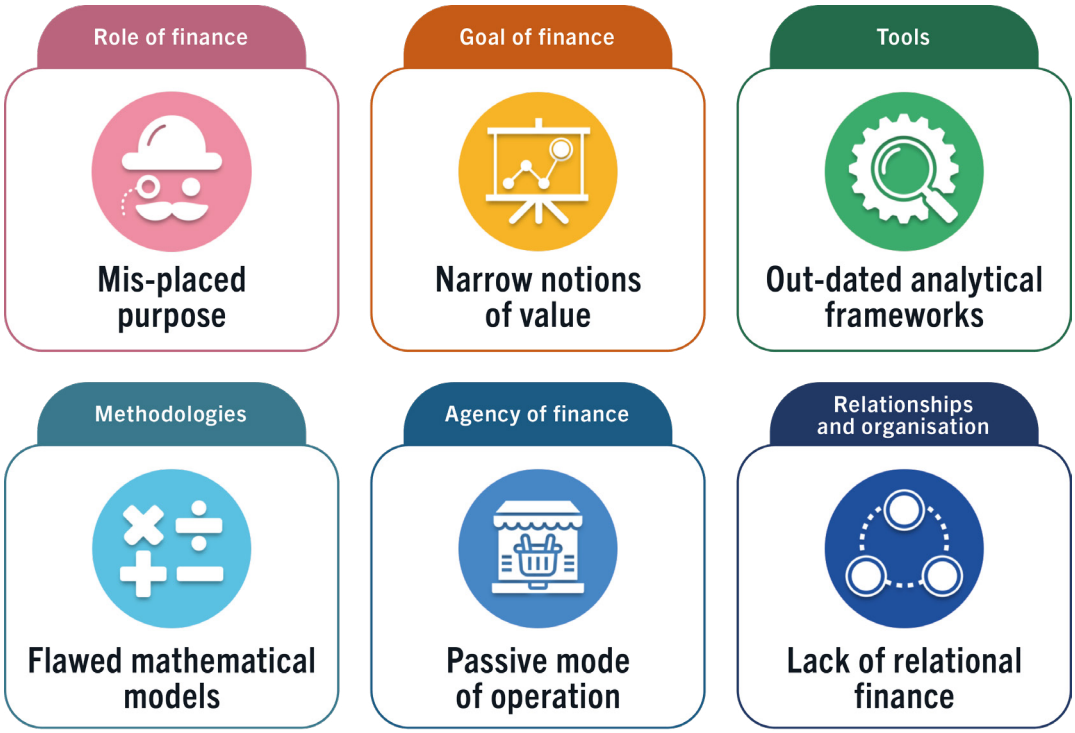


Figure 8: Main barriers to changing finance - The Club of Rome Rethinking Finance Impact Hub
Source: https://www.clubofrome.org/publication/changing-finance/

By applying The Club of Rome's analytical framework to challenges in scaling capital markets investments toward sustainable and inclusive solutions, this paper synthesises these six barriers to identify key reforms needed to transform capital markets.

These reforms align with The Club of Rome's principles for a regenerative system, along with the Predistribution Initiative's (PDI's) three primary workstreams. Throughout this paper, we focus on three key categories of action toward reform:

- Realigning the role, purpose, and goal of capital markets – or in other words, reclaim the meaning of "fiduciary duty;"
- Refining tools and methodologies that are used to understand, analyse, and assess risk, return, and value to reflect real-world dynamics and in particular, human, social, and natural capital; and,
- Leveraging the influence and agency of investors to recognise the value that other stakeholders and nature bring to transactions and the risks that these stakeholders and nature take. This reduces incentives to shift risk to workers, communities, and nature, and incentivises stronger distributions of return to workers and communities, as well as the conservation of nature.

Responsibility for these reforms does not lie solely in the hands of the investment community. As such, this paper encourages investors to engage with standard setters, ratings agencies, field building organisations, international organisations, policymakers, and regulators – including but not limited to central banks – to design and deploy reforms supporting the above. Regarding central banks, it will also be key to develop a transformative monetary policy toolkit and an innovative, macroprudential supervisory framework to serve as foundations for capital markets.

Reclaiming the meaning of fiduciary duty through improved incentive structures

> *"Leverage points are points of power. These are places within a complex system (a corporation, an economy, a living body, a city, an ecosystem) where a small shift in one thing can produce big changes in everything."*
>
> **Donella Meadows**

The significance of institutional asset owners and allocators

Capital markets are comprised of a diverse set of heterogeneous actors and institutions, with a variety of mandates, goals, purposes, and incentives determined by their particular business models and clientele. When considering how to approach systems change in this context, it is crucial to identify key leverage points, defined by widely acclaimed systems thinker, Donella Meadows, as "points of power." A mapping of incentives throughout capital markets highlights how asset owners and allocators (described further below) represent significant leverage points,

because of their investments with asset managers, in portfolio companies, and through other investees downstream.[16] In simple framing, and in theory, as these downstream groups compete for asset owner and allocator capital, they are responding to the incentives and preferences set by those investors who sit at the top of the "capital markets value chain."[17]

Figure 9 provides a simplified illustration of this dynamic. It is important to note that both asset owners and asset managers are considered investors but have distinct characteristics. Asset owners are positioned at the "top" of the value chain, reading from left to right, setting incentives for asset managers, as well as other investees, which in turn impact people and the natural environment.

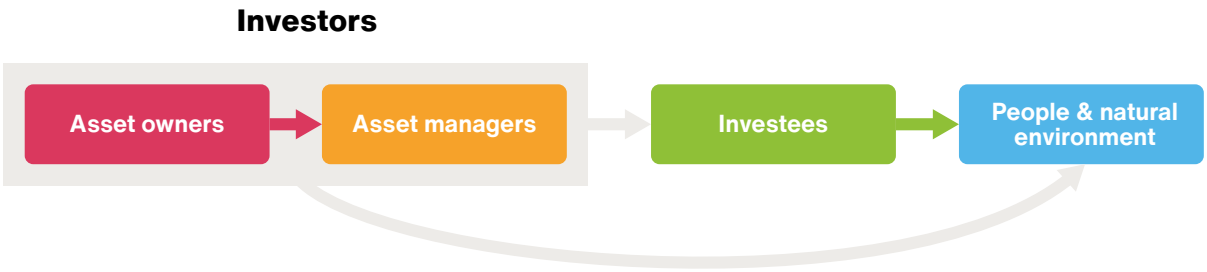
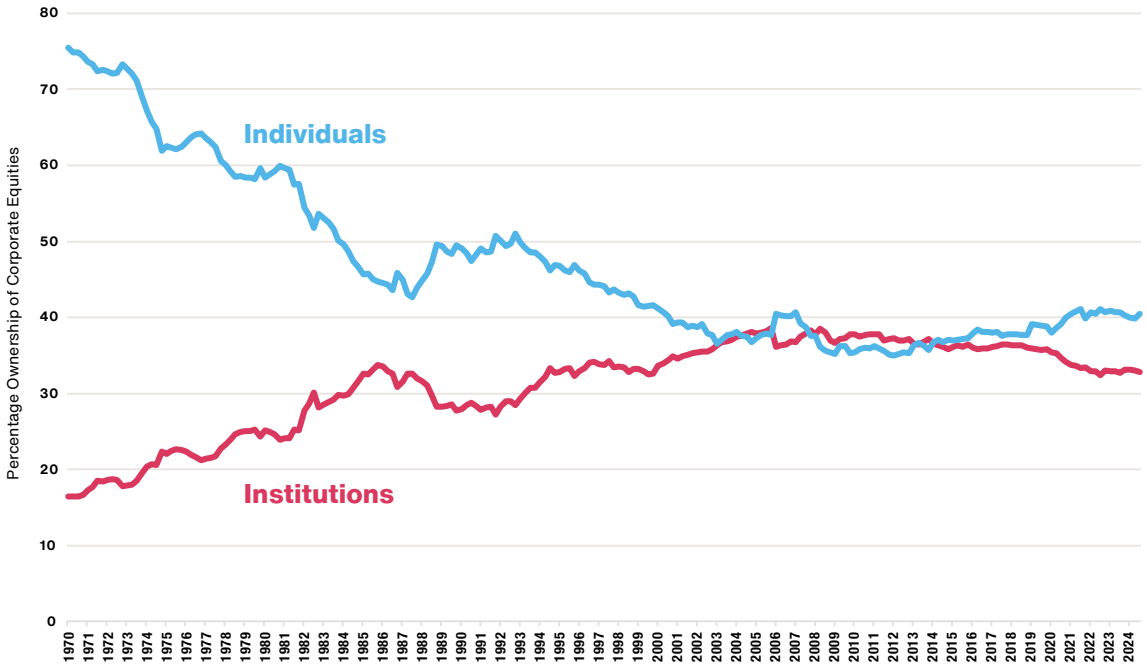


Figure 9: Actors and key pathways of influence through the capital markets value chain [18]

Incentives and activities upstream in the capital value chain can significantly influence what happens downstream.[19] Investors influence outcomes for people and nature through investees (e.g., encouraging or discouraging a portfolio company or sovereign to engage in carbon-intensive activity, or by overleveraging a portfolio company to the point where it cannot afford to offer quality jobs or quality and affordable goods and services). Investors can also impact people and the natural environment directly, without going through investees (e.g., if an investor engages in lobbying or political spend that influences policy in ways that are detrimental for stakeholders, or if the investor has a strategy to only invest in businesses with monopoly-like or "moat" dynamics, leading to market concentration and unfavorable prices and wages for consumers and workers). Impacts can be positive or negative, as well as intentional or unintentional.

Asset owners and allocators are also diverse, comprised of pension funds, sovereign wealth funds, insurance companies, endowments, charitable organisations, and family offices.[20] Across and within these categories, asset owners and allocators have different investment objectives. For instance, pension funds have mandates to be able to cover their liabilities, including pension benefits, and in the United States, may need to achieve approximately 6-7% return targets annually depending on actuarial assumptions and funding ratios. On the other hand, family offices investing on their own behalf can set their own mandates, targeted returns, and preferences and may be willing to forgo financial returns if the investment will help them achieve some other objective (e.g., the family may choose to invest in a vineyard for enjoyment, even if it is not profitable). With these differences in mind, it can be difficult to group asset owners and allocators together as a single leverage point. They may each have different investment objectives and practices which result in different incentives for their investees.

While family offices may have the most potential for flexibility in terms of how they invest, they typically invest smaller sums and are more diverse and fragmented. To catalyse change in markets, it is useful to conduct further mapping of the largest, most influential allocators and their incentives to invest as they do. Of the approximately US$400 trillion of global financial assets, institutional investors manage around 39%, with the majority managed by pension and sovereign wealth funds.[21]



Source: Federal Reserve via FRED
Note: Institutions include insurance companies, private pension funds, closed-end funds, mutual funds and exchange-traded funds. Individuals include households and non-profit organizations.

Figure 10: Shift in US equity investors from individuals to institutions, 1970-2024

The double-edged sword of size and scale

Pension and sovereign wealth funds are typically large, multilayered, and complex, operating under significant pressure to efficiently put capital to work. This often leads them to favour capital allocations to large, established investees. Many invest through asset managers and, as Figure 11 highlights, those institutions have also become quite large and concentrated, leading to potentially negative impacts and typically unintended inequality.[22] For instance, allocating to larger fund managers can limit opportunity for diverse and emerging fund managers. Larger fund managers may also find it difficult to invest in small- and medium-sized enterprises (SMEs), making it more difficult for SMEs to compete for capital.[23] An example of this dynamic in the private equity leveraged buyout market is illustrated in Figure 12, which compares the average growth in fund size to the growth in average deal size, suggesting that larger funds tend to focus on larger deal sizes.

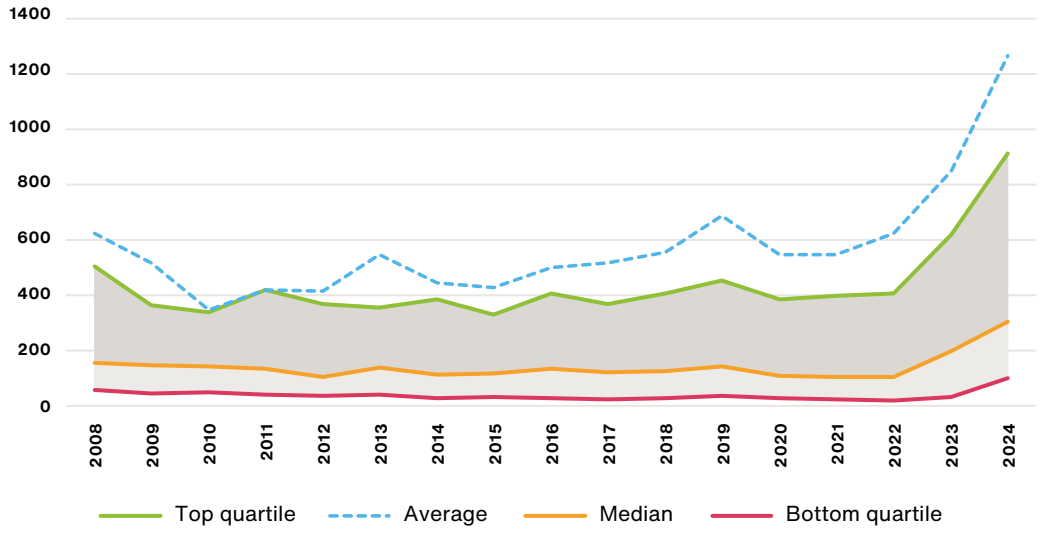


Figure 11: Average US private equity buyout fund size, 2010 - 2024

Source: PitchBook's Q2 2024 Global Private Market Fundraising Report. *As of June 30, 2024

Global buyout deal value, by region

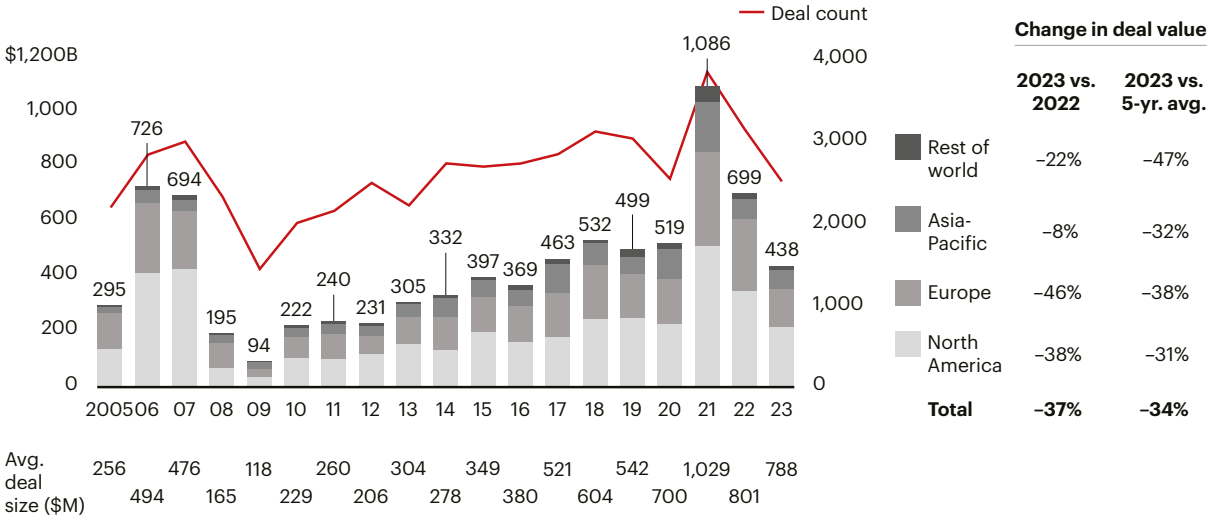


Figure 12: Global LBO average deal value and deal count, 2005-2023

Sources: Dealogic, Bain & Company, Global Private Equity Report 2024. Notes: Includes add-ons; excludes loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; geography based on target's location; average deal size calculated using deals with disclosed value only.

However, large institutional asset owners and allocators are also beginning to realise that status quo investment practices no longer serve them. The concept of "Universal Ownership" has emerged, reflecting an understanding that most institutional allocators have such diversified portfolios that they are exposed to nearly every industry, geography, and asset class. This makes it practically impossible to diversify away ever greater systemic and systematic risks resulting from climate change, biodiversity loss, and inequality.[24]

These risks eventually negatively impact the financial return of investors' diversified portfolios. This is because the long-term financial success of these portfolios depends on the health of the market, which in turn depends on the health of the economy, which ultimately depends on the health of human and natural systems. As noted in the book, *Moving Beyond Modern Portfolio Theory: Investing That Matters* by Jon Lukomnik and Jim Hawley, "more than 75 percent of the variability in the return to an investor is caused by systematic risk – that is, some combination of beta and how much exposure an investor has to that beta."[25]

Among global institutional investors, there is growing awareness that systemic and systematic risks can result from climate tipping points or ecosystem collapse due to biodiversity loss. Research from the Potsdam Institute highlights that "Even if CO_2 emissions were to be drastically cut down starting today, the world economy is already committed to an income reduction of 19% until 2050 due to climate change... These damages are six times larger than the mitigation costs needed to limit global warming to two degrees."[26] There is also an emerging body of evidence that massive inequality can lead to destabilising migration, domestic and geopolitical tensions, secular stagnation, asset bubbles, and credit crises, as well as resistance to climate and nature solutions if they conflict with near-term economic security and wellbeing for certain populations.[27]

These systemic and systematic risks are caused by negative externalities, often stemming from activities and dynamics in the private sector.[28]The Principles for Responsible Investment (PRI), one of the leading member-based organisations of investors globally, notes that "systemic risks, such as climate change and inequitable social structures, seriously threaten the long-term performance of economies and asset owners' portfolios, as well as the world in which their beneficiaries live."[29] Universal owners thus conceivably have incentives to invest in ways that reduce negative externalities and perhaps even enhance positive externalities.

Tracing the origins of externalities

If we maintain the status quo, embracing the Too Little Too Late scenario, many of the contributing factors to these risks will continue to come from investors and their investees. Consider the food turnaround. Efforts to maximise near-term financial returns – for instance, through large private equity investments[30] – can lead investors to fund larger rather than smaller farms, and to encourage intensive monoculture practices with high use of pesticides. The resulting production will likely seem efficient and perhaps strong on a near-term basis, producing attractive financial returns for the business executives and investors who hold equity, even as smaller farms may get squeezed economically.

However, in the longer term, soil will be depleted, and ecosystems will become stressed. Particularly if this approach is widespread across farms, it is unlikely a food turnaround can ever be reached. Local populations may need to migrate to find new opportunities, causing social instability and a reversal of progress on the poverty, inequality, and empowerment turnarounds. As a result, future generations of investors, such as pensioners to whom pension funds have an intergenerational fiduciary duty, will inherit markets where underlying fundamentals are depleted. This scenario embodies the concept of "mortgaging our future," as returns today are prioritised at the expense of returns for future generations. A better balance would produce returns more evenly for all generations, as reflected in the concept of "sustainability."

Across jurisdictions globally, many of these investors, particularly pension funds, have intergenerational fiduciary duties of loyalty, impartiality, and care, which require them to identify – and avoid or minimise – uncompensated transfers of risk between generations of plan participants.[31] They have a duty of loyalty to a fund's human beneficiaries, rather than to an inanimate investment fund, underscoring the potential materiality of negative externalities borne by fund participants as members of society. These institutions are responsible for pensions decades into the future,[32] and cannot be partial to maximising returns for current beneficiaries if they come at the expense of future beneficiaries.[33] The International Corporate Governance Network (ICGN), an investor-led network, affirms that "fiduciary responsibility extends beyond the traditional duties of care and loyalty to include considerations of timeframe and systemic risks."[34]

As such, asset owners and allocators are increasingly reevaluating their governing documents – such as Investment Belief Statements and Investment Policy Statements – to reinforce the recognition of intergenerational fiduciary duties and to acknowledge that investment objectives should consider systemic and systematic factors over short- and long-term time horizons. This is an early critical step toward the capital markets reform necessary for the Giant Leap scenario.

The next step: putting policies into practice

Policies are only effective if implemented. Many institutions are advancing implementation through stewardship teams, tasked with engaging with their investee counterparts – for instance, a portfolio company's sustainability team – to encourage those investees to adopt improved social and environmental practices. This could include reducing externalities that impact long-term economic and market performance. However, these stewardship teams often work in parallel to investment teams at their institutions, who typically conduct financial analyses, manage the allocation (and in certain contexts the pricing and structuring of capital), and engage more directly with a portfolio company's Investor Relations (IR) team, Chief Financial Officer (CFO), and Chief Executive Officer (CEO). Investment teams are also typically incentivised to meet or exceed financial benchmarks in one-to-three-year timeframes, leading them to target short-term returns which may not align with the longer-term investment mandate of the institution. In turn, they may encourage the IR team, CFO, and CEO to prioritise short-term returns, conflicting with the dialogue between stewardship and sustainability professionals.[35]

Financial benchmarks are informed by historical market performance, reflecting status quo undervaluation of human, social, and natural capital (concepts further explained in the following section). Historical practices have not internalised externalities, and because investment teams are incentivised to meet or exceed returns based on historical data in relatively short timeframes, they will not likely be incentivised to invest – or holistically encourage their investees to invest – in a regenerative future. This is not because these institutions have poor intentions, but rather represents a blind spot in how the overall system has evolved.

It is also worth noting that institutional investors often have different financial benchmarks and teams for each asset class. These investment teams tend to work in silos, each focused on meeting or exceeding the benchmark return for their particular asset class without consideration of systemic implications for investments in asset classes managed by other teams. Combined

with the pressure to allocate large amounts of capital at a time, this approach often misses innovative investment structures targeting risk-adjusted rates of return, which may not fall neatly in any particular asset class bucket. As a result, it can be difficult to secure capital for investment opportunities tailored to address certain market needs, limiting the potential of systemic regenerative investment.[36]

The effectiveness of Investment Belief and Policy Statements which acknowledge intergenerational fiduciary duties will depend greatly on how incentive structures, capital allocation, and pricing evolve to align with new stated investment objectives. Potential solutions to these issues, and approaches to advance them, are discussed in more detail in the following section.

A legal framework for impact

Investors need the confidence and legal support to act according to interpretations of fiduciary duty that allow them to account for externalities. A recent report – *A Legal Framework for Impact: Sustainability Impact in Investor Decision-Making* by Freshfields Bruckhaus Deringer commissioned by the Generation Foundation, the Principles for Responsible Investment, and the United Nations Environment Programme Finance Initiative – reflects the complexity of concepts relating to fiduciary duty across jurisdictions globally.[37]

A lack of a full understanding of the shared purposes which fiduciary duties are intended to serve, even across jurisdictions, leaves many investor fiduciaries with a narrow perspective on the context of their duties. Thus many institutional investors focus on optimising the financial performance of each individual investee and meeting or exceeding traditional financial benchmarks, even at the cost of negative externalities for social and natural systems.

Key findings of the paper – as per an official summary report[38] published on *A Legal Framework for Impact* - include:

- **Sustainability outcomes are highly relevant for most investors.** Negative sustainability outcomes pose significant risks to the natural and social systems on which economic prosperity and investment returns ultimately depend, especially over the long term.
- **Investors generally have a legal obligation to consider pursuing sustainability impact goals where that can help pursue their financial objectives.** Legal duties generally provide significant discretion for investors to make informed decisions about when to pursue positive sustainability outcomes in ways that support their proper investment purpose and objectives. Long-term investors who fail to consider how to manage sustainability outcomes or systemic risks may find they are failing to address factors that are highly relevant to their ability to protect the value of their beneficiaries' or clients' investments.
- **Regulators and policymakers are implementing measures to increase the incentives and ability of investors to monitor and disclose sustainability outcomes, mitigate sustainability risks, and contribute to sustainability goals.** Despite the increasing range and depth of enabling policies, established investment practice is not changing fast enough and requires acceleration.

- **The debate is shifting from whether investors should consider sustainability outcomes at all, to asking how investors can play their full role in addressing sustainability challenges posed by the economic transition.** Modern capital markets are built on the drive to solve difficult problems and grasp previously unrecognised opportunities. The focus is now on measured and effective financial regulation reforms to enable investors to contribute effectively to addressing core sustainability aspects of the economic transition.
- **Policy makers should continue to clarify legal duties where necessary, while shifting the emphasis decisively to policies that support and incentivise investor action.** They should:
  - ensure investors can confidently set and pursue commitments to achieve positive sustainability outcomes
  - establish compatible national and regional sustainable finance policy regimes with multilateral support
  - develop market infrastructure (disclosures, product standards, data and incentives) to enable investors to innovate and scale up investments that contribute to sustainability goals in support of economic transition.

Integrating real-world systemic factors into accounting and financial analysis

"Management is doing things right; leadership is doing the right things. But without the right tools and information, even the best leader can fail."

Peter Drucker

The materiality spectrum

The concept of risks and opportunities specific to the financial return of an individual investee is commonly referred to as "single financial materiality" or "idiosyncratic" risk and return. It is a backbone of modern investment practices and plays a key role in how investment teams analyse investments and manage portfolios in pursuit of their financial return objectives.

Some investors also have mandates to consider impacts on people and the environment in their investment activities, regardless of financial return implications. This is the concept of "impact materiality," defined by The Global Reporting Initiative (GRI) as "information on the reporting company's impact on the economy, environment and people for the benefit of multiple stakeholders, such as investors, employees, customers, suppliers and local communities."[40]

When both impact and single financial materiality are considered by an investor, this is called "double materiality." Some jurisdictions - such as the European Union - mandate entities to report and assess information using a double materiality approach, while others focus on financial materiality.

Private sector entities have impacts on people and the environment – the "impact" in impact materiality – but they are also *dependent* on people and the environment, including communities for their social license to operate, workers for production, consumers for sales, and nature for material inputs. Diversified investors depend on the economy, which is dependent on the health of human and natural systems. These dependencies lead to *risks and opportunities* for an organisation, which could be financially material. Together, these concepts are known as impacts, dependencies, risks, and opportunities (IDRO).

For instance, a company can negatively impact a local community through depletion of natural resources that serve as ecosystem services for that community. The negative outcome can be captured by the concept of *impact materiality*. But because the company is dependent on that community and the natural resources, deterioration of both trust and resources could lead to *financially material risks* to the company. Alternatively, if the company is well-loved by the community and customers upon which it depends, and financial performance is materially enhanced as a result, this would be considered a financially material opportunity. In these cases, the relationship with the community is material from both an impact and financial materiality perspective. However, sometimes a company is not dependent enough on a particular stakeholder or natural resource for certain impacts on those dependencies to be financially material.

Whether something is material from an impact or single financial perspective can change over time based on evolving public perceptions, social norms, knowledge, natural phenomena, and public policy through a concept known as "dynamic materiality." For instance, negative impacts experienced by certain marginalised workers of a company may go unnoticed for some time, and therefore not become financially material risks to the company. However, as these impacts come to light over time, the company faces increased reputational risk that can become financially material.

From a systemic and systematic perspective, investors may find it acceptable for many years that companies do not pay a living wage, or that interest payments are so high that sovereigns cannot afford to invest in critical social and physical infrastructure. However, when social conditions deteriorate enough, destabilising inequality can negatively affect the financial performance of markets and thus diversified portfolios. The Impact Management Platform – a collaboration between the leading providers of international public good standards, frameworks, and guidance for managing impact – observes in a 2023 paper that minor impacts of a private sector entity can add up over time to become systems-level issues.[41]

Limitations of current reporting frameworks

Today, corporate financial reporting is governed by bodies including the International Financial Reporting Standards Foundation (IFRS), which has a corresponding sustainability financial disclosure framework, the International Sustainability Standards Board (ISSB). These entities adopt a single financial materiality approach, and as the ISSB becomes the primary framework for sustainability financial disclosure, it is influencing disclosure regimes overseen by the world's financial regulators, making it a key lever for change in how capital markets interpret risk, return, and value.

The IFRS Foundation and ISSB leverage historical precedent amongst major capital markets jurisdictions to shape their definition of materiality. The ISSB states that, "Information is material

if omitting, misstating, or obscuring it could reasonably be expected to influence investor decisions," further noting that, "IFRS... asks for disclosure of information about sustainability-related risks and opportunities to meet investor information needs. That means information about all sustainability-related risks and opportunities that could reasonably be expected to affect the company's prospects – its cash flows, access to finance or cost of capital over the short, medium, or long term."[42]

If investors only focus on the short-term idiosyncratic risk and return of each individual investee, the ISSB framework will produce information that encourages the externalisation of costs.[43] But if enough investors (and lenders) see the externalities of their investees as important, this information could be reported through the ISSB's framework, as it can affect a company's access to finance and cost of capital, even if only over the long term.

However, the ISSB is a *corporate* financial disclosure framework. Given that not all externalities caused by the private sector emerge from corporate activity, but also from investment activity, another framework would be needed to capture and assess information about externalities caused by non-corporate institutional actors.[44] Additionally, given the complexity of systems – including non-linear dynamics, feedback loops, and macro factors, it is highly unlikely that there will ever be a fully reliable methodology for companies to estimate the externalities to which they contribute, let alone other externalities which could impact them. Therefore, it would be difficult for companies to report on and/or internalise externalities entirely. Should the ISSB eventually become a route through which information on corporate externalities is produced, it will likely be just one estimated input into a wider set of considerations – for instance, which consider systemic and systematic risks at a portfolio-level.

For investors considering externalities in their investment analysis and decision-making, neither single financial materiality nor impact materiality offer clarity on how human and environmental impacts become economic externalities, which are then ultimately financially material to diversified investors' portfolios.

GRI's framework, on the other hand, was designed for all types of organisations, not just corporations, meaning that government entities, non-profits, and capital markets actors like pension funds and sovereign wealth funds can also report using the framework. This allows for a more holistic understanding of impacts on people and nature, some of which can become – by themselves or in aggregate – externalities.

Furthermore, through its Economic Topic Standard, GRI's framework guides disclosure on not only social and environmental impacts, but also economic impacts. However, the Economic Impact Topic Standard is not currently designed to facilitate holistic disclosure about estimates of externalities. GRI has a significant opportunity to evolve this topic standard as such, which would facilitate the disclosure of critical information for diversified investors (or "Universal Owners") who wish to assess externalities in their investment decision-making.

Narrowing gaps in how externalities are factored into financial analysis and investment decision-making

For investors considering externalities in their investment analysis and decision-making, neither single financial materiality nor impact materiality offer clarity on how human and environmental impacts become economic externalities, which are then ultimately financially material to diversified investors' portfolios. In other words, investors lack the tools that they need to assess externalities and understand how they are material at a system or portfolio level. These tools would allow for analysis of critical information, helping investors act as enablers of the Giant Leap scenario and fulfill their intergenerational fiduciary duties. They would also help counter concerns from skeptics that certain investors are acting on social and environmental factors due to values versus value, since financial analysis of externalities in a diversified portfolio would provide appropriate evidence of financial materiality at a systemic or systematic level.

There are several initiatives and efforts with the potential to bridge this gap, many of which could work together to make sense of IDROs. For instance, GRI is currently reviewing and revising its Economic Impact Topic Standard and developing a Capital Markets Sector Standard, which together could help encourage disclosing entities to estimate and report on how their human and environmental impacts become economic externalities.

Initiatives like the Capitals Coalition and its global network of members (for instance, Social Value International and the International Foundation for Valuing Impacts), as well as Rethinking Capital in the United Kingdom, are working to support companies in evolving their accounting practices and financial reporting to internalise externalities.[45] In fact, Social Value International and Rethinking Capital highlight how existing regulations and accounting standards may even mandate disclosure and accounting of such considerations in order for corporate reporting to be legally "true and fair."[46] Methodologies encourage internalisation of not only negative externalities, but also positive externalities through capitalisation of sustainability commitments. This evolution in accounting catalyses a shift in perceptions of value, risk, and return – incentivising actual behaviour change beyond reporting.

These new accounting methodologies are still emerging, but several large multinational companies are now producing financial statements with estimates of their externalities.[47] If enough investors seek financial reports with internalised externalities, it could become standard practice for companies to report in this manner through the ISSB. Diversified investors would then have more standardised, robust data to help them determine the present value of a company in the context of their long-term portfolio.

Methods that account for externalities are founded upon the concepts of *multicapitalism*. More specifically, the International Integrated Reporting Council (IIRC), which preceded the Capitals Coalition, identified six types of capital that organisations use to create value, as illustrated below.

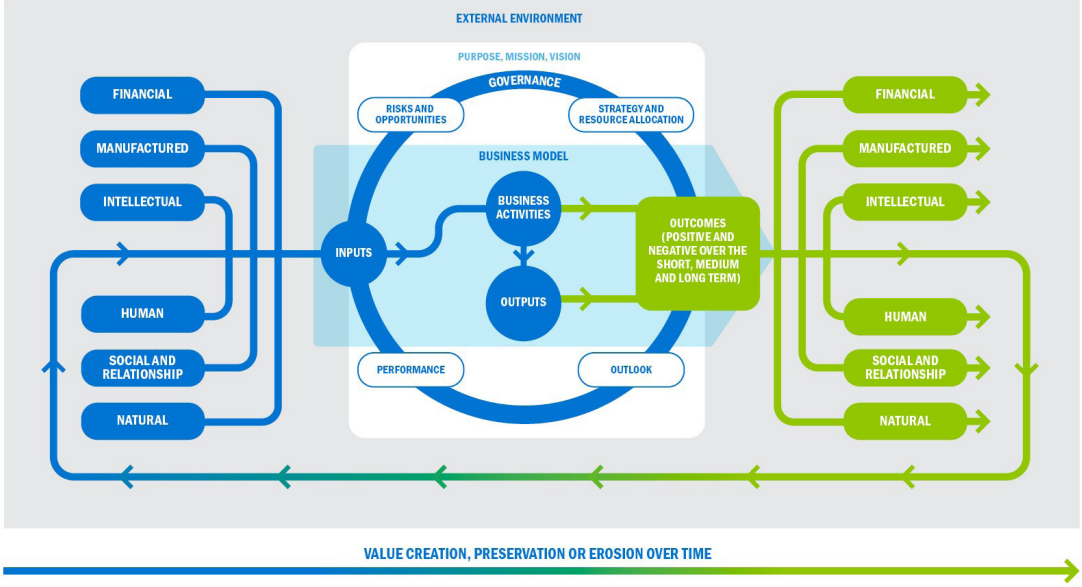


Figure 13: The six types of capital identified by the IIRC and their roles in producing economic value

Source: Integrated Reporting

Investors often structure transactions and distribution waterfalls such that financial capital is most highly valued, overshadowing the value of natural, human, and social capitals in making a transaction successful, or even in supporting the health of markets and portfolios more broadly. For instance, when investing in an infrastructure project in a low-income country, investors may expect land and labour costs that are much lower than developed markets, as well as a much higher financial return due to a perceived risk profile. However, the project would not be possible without people and nature. In such transactions, social and human capital take significant risk and create much of the value, but do not share in the returns nearly to the same extent as those who participate with financial capital, because social and human capital (workers and communities) are undervalued.

Similarly, attributing little value to natural capital results in greater incentives to exploit it. This is particularly true for Emerging Markets and Developing Economies (EMDEs), which have lower credit ratings and higher costs of capital than countries that are considered developed. The immense wealth and value of these nations' natural resources are overlooked on their corresponding balance sheets. These dynamics deteriorate social and natural systems, bringing the world, economies, and markets closer to catastrophic tipping points.

Through the lens of multicapitalism, one can begin to see how traditional market interpretations of value, risk, and return undervalue human, social, and natural capital, while overvaluing financial capital. This leaves little incentive for capital markets to invest in real-world needs and makes projects that could add significant real-world value appear too high-risk relative to the reward. Meanwhile, the costs of inaction are high when it comes to sustainable and inclusive development, unaccounted for by companies and investors alike. These unaccounted costs are looming risks, often missed by financial analyses when considering the risk-return profile of investments.

Financial capital has become increasingly divorced from real-world value, fueling the

expansion of an ever-growing financial sector.[48] As social and environmental stakeholders shoulder uncompensated and detrimental risk, the world inches closer to breaching planetary boundaries and social norms, and our modern, financialised economy becomes the reality. Valuing human, social, and natural capital could have profound implications for how ratings agencies conduct risk assessments; how investors think about the risk-return profile of investments; and which stakeholders see returns on the investments they make, the value they create, and the risks that they take.

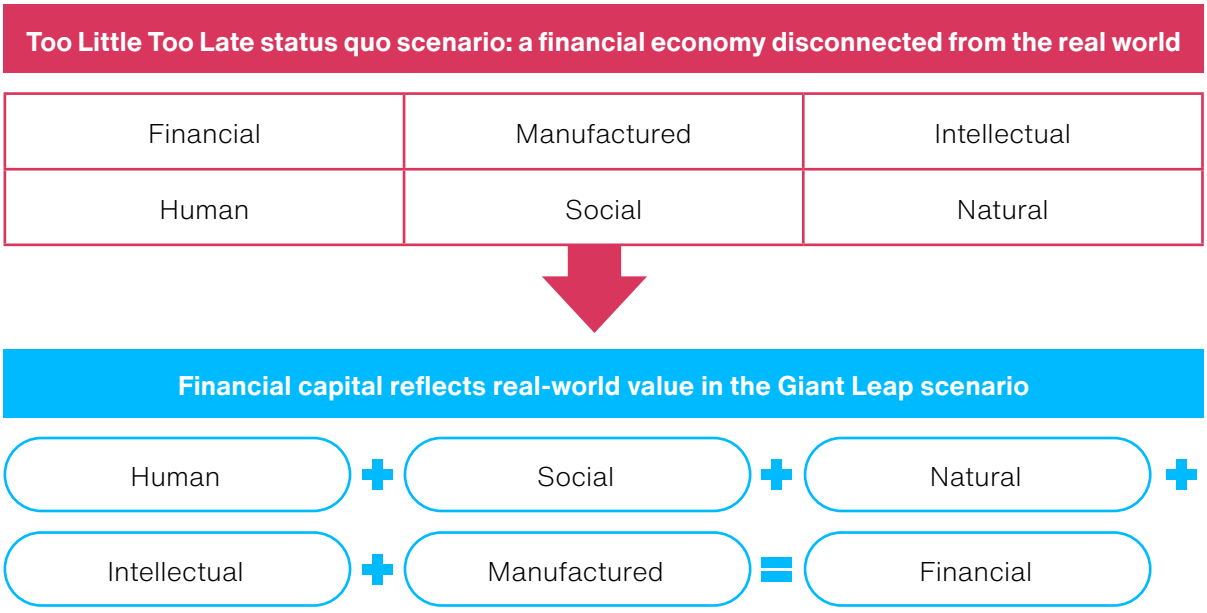


Figure 14: Reintegrating social, human, and natural capital into financial capital

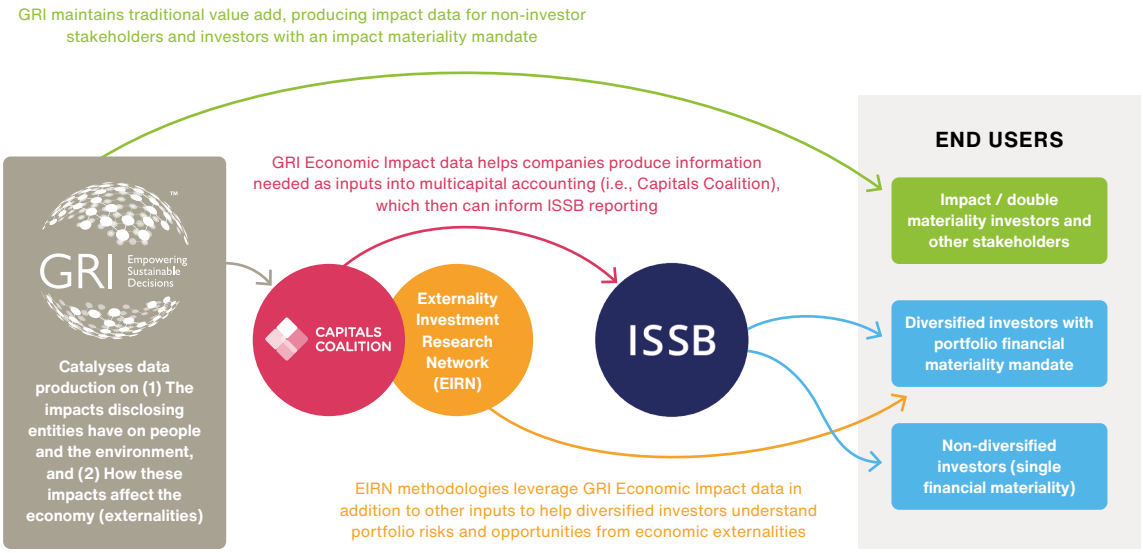
Capitalism requires capital, but what is capital?

The term "capital" is believed by many to be derived from Medieval Latin, when it was used to refer to cattle. Cattle, or livestock, were of value themselves, but could also be used to create surplus value. According to Paul Samuelson and William Nordhaus, capital goods are "those durable produced goods that are in turn used as productive inputs for further production."[49]

Today, some methodological initiatives – such as the Externalities Investment Research Network (EIRN) of academics and practitioners – are emerging to help investors estimate how externalities manifest and financially impact the value of their diversified portfolios. Projects like these support the evolution of methodologies for the use of discount rates, whereby the future value of social, human, and natural capital could be better understood in the present.[50] In effect, they support the systemic risk-adjustment of returns, helping investors better understand and assess their dependencies on social and natural systems and the financial impact of a potential investment on those systems. Ultimately, in addition to corporate accounting and disclosure tools, investors themselves will need to evolve their financial analysis methodologies to consider multiple capitals and their relation to risk, return, and value.

When it comes to the inequality, poverty, and empowerment turnarounds, The Taskforce on Inequality and Social-related Financial Disclosures (TISFD) is an emerging initiative that seeks to support market actors – both companies and investors – in understanding their IDROs, as well as how inequality manifests as a systems-level risk.[51]

Figure 15 outlines a proposal by PDI for how various initiatives could work together to produce the information investors need to reduce negative externalities and pursue positive externalities. The development and implementation of these tools and approaches would support investors in building the right incentive structures to invest in ways that fulfill their intergenerational fiduciary duties. For instance, an investment professional's performance could still be evaluated based on risk-adjusted rates of financial return in a one-to-three-year timeframe, but using discount rates and accounting tools that value the future as much as the present.



ISSB maintains its traditional value add by producing single financial materiality data for investors (particularly non-diversified investors) and using financial reporting methods (i.e., Capitals Coalition) that estimate companies' internalisation of externalities (assuming not all externalities can be internalised by companies, investors will also leverage outputs from EIRN methodologies, which would not flow through ISSB)

Figure 15: The potential for various initiatives to support internalisation of externalities at both the company and portfolio levels

New approaches and initiatives are also emerging to address the aforementioned limitations of financial benchmarks, with some pension funds experimenting with moving away from traditional benchmarks entirely. The Dutch pension scheme, PGGM, is moving toward an approach that it refers to as "3D Investing," which includes real-world impact considerations.[52] A number of pension schemes are also experimenting with the Total Portfolio Approach, which results in more flexible asset allocation outside of rigid asset class silos and in line with the fund's overall goals.[53] PDI and Responsible Asset Allocator Initiative (RAAI) recently announced a co-creation forum – the Responsible Financial Benchmarking Lab (RFBL) – for institutional investors to come together to workshop and fine-tune these emerging solutions, sharing lessons learned and opportunities to scale practices with integrity over time, with a particular focus on externalities.

Avoiding unintended negative consequences: deference to the precautionary principle

Not all externalities can be internalised by the organisations who contribute to them. Organisations can make their best effort to assess the impact data they report – for instance through GRI – to estimate how those impacts may affect the economy (i.e., become externalities). However, the pathways through which impacts become economic externalities are complex, involving non-linear dynamics, unknown variables, and feedback loops, making it challenging for organisations to adequately analyse and internalise externalities.

Even as new forms of accounting and financial analysis emerge, it will remain important to acknowledge that the information produced through these tools is estimated, given uncertainty around complex economic dynamics and ecosystem tipping points.[54] Methodologies should be continuously reevaluated and refined.

It will also be important for investors and their investees to adopt the precautionary principle. Defined by the UN Rio Declaration on Environment and Development, the precautionary principle states: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." Similarly, the UN Guiding Principles on Business and Human Rights state that it is a private sector entity's responsibility to prevent human rights violations by conducting due diligence. Several sustainability standards, including GRI, reference and apply these principles.

From micro to macro: integrating multicapital accounting and financial analysis into new approaches for assessing economic success

Gross Domestic Product (GDP) is a measure of economic growth that has been critiqued for overlooking factors relating to the real economy. For instance, it does not consider the distribution of economic growth among citizens of a country, despite data suggesting that high levels of socioeconomic inequality can jeopardise economic growth and stability in the long term.[55]

Indicators could be used to complement GDP, such as the Human Development Index (HDI),[56] which incorporates factors like education and life expectancy and provide a more holistic view of wellbeing. Additionally, the Multidimensional Poverty Index (MPI)[57] offers insights into income distribution and deprivation beyond monetary measures. Environmental sustainability metrics such as carbon intensity, energy efficiency, and natural resource management could also be considered to ensure equitable and environmentally sustainable economic performance. The Earth4All Wellbeing Index takes climate, nature, and social factors into account.[58]

In terms of a holistic approach, if accounting and financial analyses were reformed to better account for human, social, and natural capital – in essence, externalities – the foundations would be laid to produce information that would better inform revisions to GDP. Such estimates can also better inform policymakers and regulators who use economic considerations as proxies for understanding elements of societal wellbeing. Some efforts in this direction are already underway via UN efforts on a System of National Accounts.

Thresholds and allocations

For measurement and management tools to effectively incentivise the private sector to stay within planetary boundaries and social norms, thereby avoiding negative tipping points and system-level risks, guidance will be needed with respect to the question of "what does good look like?" Furthermore, to adequately value human, social, and natural capital, one might need to know what limits there are to these capitals in various contexts.

Recently, catastrophic deadly floods, wildfires, and increased storm and weather severity around the world have all been warning signs that the current economic system is exceeding the planetary boundaries at full throttle. Meanwhile, rising inequality within and across countries,[59] alongside corresponding disenfranchisement and loss of trust in global leadership, have led to gridlock on collaborative efforts to find solutions. While some might argue that more economic growth is the answer to balance global inequities, it is becoming evident that, to date, growth has unevenly and unsustainably benefited certain populations while disadvantaging others. Indeed, this near-term growth for wealthier populations threatens long-term growth for all.[60] A new path to pursue sustainability and wellbeing in both developed and developing economies and regions – within and across countries – is needed to benefit humanity and the planet.

Science-based targets have been developed for climate-related activity and play an important role in shifting behaviour of private sector actors. However, our understanding of best practice is still evolving, while context-based targets for nature loss and inequality are less developed. In pursuit of strengthening guidance, efforts such as the Science Based Targets Initiative, Science Based Targets Network, and UN Research Institute for Sustainable Development (UNRISD) have produced and are developing further tools which private sector actors can use to measure and manage their activities to stay within planetary boundaries and social norms.[61]

Such efforts may address common critiques that the pathways for achieving the SDGs are unclear and lack key performance indicators that can be applied by the private sector. Clearer guidance can also reduce incremental target setting and cherry picking of indicators based on convenience, historical performance, peers, or institutional preference, helping to avoid a game of "whack-a-mole" when it comes to addressing global challenges.

Diverse and inclusive input across localities and regions is required for these "context-based targets" to be effectively developed. Ultimately, global tipping points depend on local activity, and intensive, multidisciplinary consensus building will be required to determine appropriate thresholds and allocations for the private sector. This will demand thoughtful participation and support from governments with participation from their constituents. As such, agreeing to a roadmap and resources to facilitate this consensus building should be a top priority for global forums such as the UN Climate Change Conference, the UN Biodiversity Conference of the Parties to the UN Convention on Biological Diversity, and other initiatives such as Financing for Development 4.

Evolving investment structures and business models for systemic and structural change

> *"One of the main challenges in teaching system dynamics is helping people to see themselves as part of a larger system, one in which their actions feed back to shape the world in ways large and small, desired and undesired. The greater challenge is to do so in a way that empowers people rather than reinforcing the belief that we are helpless, mere leaves tossed uncontrollably by storm systems of inscrutable complexity and scope."*
>
> **John D. Sterman, Jay Wright Forrester Prize Lecture, 2002**

There has been notable progress in the field of sustainable investment toward developing measurement and management frameworks to reduce negative impacts and encourage positive impacts. However, these efforts have largely focused on the operations, products, and services of portfolio companies. As previously noted, not all impacts and externalities are caused by companies and the investees of investors. Many are also caused by the actions and inactions of investors themselves, even inadvertently.[62]

For instance, asset owners and allocators may contribute to externalities in terms of whether or not they allocate capital to diverse and emerging managers, or whether they contribute to the pricing of capital at sustainable rates on sovereign debt issuances. Asset managers, such as leveraged buyout private equity firms, may contribute to externalities as a result of financial engineering (over-levering of portfolio companies which can reduce resources for quality jobs and quality and affordable goods and services) or high executive compensation relative to worker wages in portfolio companies (which can exacerbate inequality).

When it comes to listed corporate issuers, the shift in capital allocation toward index funds, along with the structuring of these products, has potential implications for meaningful price discovery and valuations. This can lead to a snowball effect where large companies grow even larger once they reach the levels of the most dominant indices, while companies' underlying fundamentals might decrease in importance. In this sense, the rise of passive investing may be contributing to market concentration, influencing the cost of capital and incentives for companies more significantly than less dominant active managers and stewardship efforts.[63]

When considering effective reform of practices, the people- and environment-related IDROs of capital market actors are equally important as those of companies. Indeed, investors' IDROs may be the most important to measure and manage, since these actors – particularly asset owners and allocators – sit at the top of the capital value chain and set incentives for investees downstream through the way they allocate, structure, and price capital and conduct engagement. Their influence over the allocation of resources is notable, as well as incentives to use that influence, since they are significantly exposed to feedback loops that manifest through externalities and system-level risks.[64]

However, because they operate in complex and fast-moving systems with long-established incentive structures and protocols, it can be difficult for investors to see what opportunities they can leverage for change. What would it mean if these investors were to change the way they analyse investments, embracing an intergenerational interpretation of fiduciary duty, considering systemic and systematic factors in financial materiality, and making use of better data on externalities with evolved accounting and financial analysis tools? What would the world look like if there were a way to risk-adjust return expectations to consider systemic and systematic risk and value?

In today's markets, financial capital flows in procyclical ways and in large volumes through a short-term lens that overlooks the value of other capitals. It is easy to invest in large Exchange Traded Funds (ETFs)[65] and structured products. Debt financing for less developed areas of the market – such as SMEs, Small Island Developing States (SIDS), and Least Developed Countries – is often priced in ways that ignore systemic and systematic risks and value. Local opportunities critical to the health of a well-balanced market remain unfunded, or financed through capital that is priced and structured in a way that disproportionately benefits those who provide it, at the expense of the investee's and community's long-term stability.[66] While there is significant attention paid to the quantum of capital needed to address the SDGs, there is less focus on the *terms* of that capital, and whether those terms recreate the imbalances that led to our current situation.

Ultimately, if we were to more adequately value human, social, and natural capital, solving the world's greatest challenges would no longer be concessionary.

Ultimately, if we were to more adequately value human, social, and natural capital, solving the world's greatest challenges would no longer be concessionary, but rather an incredible investment opportunity, creating value while reducing systemic and systematic risk. Given that natural capital is finite in terms of supply, it would be more highly valued in the face of unconstrained demand.[67] These new meanings of risk, return, and value would drastically alter risk-return analysis and thus how discount rates are determined, such that the future of these kinds of capital would be more adequately valued in the present.

By reforming capital markets in ways that recognise the overlooked value of economically distressed regions and people everywhere, we could advance from repeatedly relying on aid-oriented stopgaps that address mainstream market failures and instead focus on fixing the market failures themselves. This is the concept of "predistribution," which strives for a more equitable distribution of returns based on a more holistic understanding of risk and value. Predistribution builds agency with people and recognises the value they create and risk that they take – for instance, as workers producing products or services in a company or communities giving land and access to ecosystem services for an infrastructure project – rather than leaving them dependent on aid and borrowing to finance their consumption. In other words, predistribution supports the empowerment turnaround, along with the inequality and poverty turnarounds. It also involves valuing nature in the first place which reduces incentives to exploit it, thereby reducing need for remediation.

When it comes to the poverty and inequality turnarounds, predistribution and redistribution are not mutually exclusive

Redistribution – for instance, through taxes (which fund social safety nets) and philanthropy – is critical to level historical imbalances (e.g., colonialism, redlining, and other injustices), provide aid in emergency situations and natural disasters, fund public social and physical infrastructure, and support people who cannot work.

However, it is critical to also fix the underlying system through which wealth is created in the first place. Only in doing so can we prevent the extreme levels of wealth concentration that have led power imbalances and situations where many become dependent on and vulnerable to the support and influence of the few. This means valuing and compensating workers, small business owners, and communities for their contributions to the economy and the risks they take to offer those contributions – or Predistribution.

Predistribution requires not only shifts in corporate behaviour but also shifts in the way capital markets actors interpret risk, return, and value. These shifts then influence the way investors allocate, structure, and price capital. Through this process, incentives change for investees, as well, which can better guide behaviours downstream.

Emerging solutions that drive predistribution

The recognition that there is overlooked value in nature is one of the drivers behind debt-for-nature swaps. These are promising solutions which offer low- and middle-income countries with high financial debt burdens the opportunity to have their debt forgiven in exchange for preserving nature. The transaction reflects an understanding that nature has a value in and of itself, to be preserved rather than converted into produced goods and services. In this sense, the debt of the country is not exactly forgiven, but rather paid back by preserving or restoring nature's inherent value. According to a 2022 African Development Bank report, since the 1980s, debt-for-nature swaps worldwide have written off $3.7bn from the face value of debt globally, suggesting this is an emerging solution, but with potential promise.[68]

By recognising nature as an asset on national or private sector balance sheets – with corresponding financial value – the environment and less developed economies become investable opportunities that channel return to the people who steward it. In this process, it is critical that measures are implemented to prevent the financialisation of nature itself by monetising and putting a price on it.[69] In their guidance on valuing human, social, and natural capital – for instance the Framework for Integrated Decision-making - the Capitals Coalition is developing tools to help avoid trade-offs between various environmental and social outcomes.[70]

Reduced debt servicing obligations, along with the enhanced and recognised value of their natural resources, enables countries to invest in critical physical infrastructure, social infrastructure, and other initiatives to bring their local populations out of poverty and build resilience to climate change. This fuels the poverty and inequality turnarounds while fostering empowerment, especially in EMDEs and rural regions where social infrastructure is most needed but insufficiently financed. It also reduces risk.

In the United States, between 1978 and 2023, corporate executive compensation grew by over 1000%, whereas worker compensation grew by just around 24%.

In terms of human and social capital, companies often claim that their greatest asset is their people. However, this is not reflected in the distribution of returns. In the United States, between 1978 and 2023, corporate executive compensation grew by over 1000%, whereas worker compensation grew by just around 24%.[71] This is largely a result of pay structures, which compensate executives in equity to align their incentives with those of investors, whereas workers are typically compensated in wages only. This gap in compensation is magnified when comparing to investors based in developed markets with the low wages earned by workers in EMDEs or rural areas, thereby widening wealth gaps between regions even as incremental steps are taken to bring people out of poverty. This dynamic also erodes relationships and trust between people in urban financial centers and those in less developed or rural regions, contributing to concepts such as the "cultural elite."

There is growing investor interest in worker and community ownership models, driven in part by the recognition that workers and communities create significant value and take significant risks.[72] Investment structures that provide equity ownership and profit sharing to a company's workers and to communities that host infrastructure projects have enormous potential to fuel the poverty, inequality, and empowerment turnarounds, while also aligning incentives between investors, executives, workers and communities.

Recent developments in valuing natural capital assets – such as debt-for-nature swaps or worker and community ownership models – demonstrate novel approaches to understanding risk, return, and value. What was previously considered concessionary – investors taking a haircut on their financial returns – might now be seen as commercial, because investors increasingly recognise the financial value of preserving nature and investing in people. The expansion of debt-for-nature swaps can support widespread reduction of burdensome debt obligations globally, while shared ownership models can build wealth, agency, and empowerment, while reducing polarisation. Both can also contribute to new meanings of GDP and balance sheets.

The untapped potential for EMDEs: making development investable

There is broad agreement – among world governments, global Development Finance Institutions (DFIs), Multilateral Development Banks (MDBs), and civil society organisations alike – that there is no single pathway to finance the multi-trillions of investments in EMDEs required to achieve the Giant Leap scenario, without an exponential increase in the scale and speed of global institutional investor allocations.

MDBs, with their collective US$1.5 trillion balance sheet, have historically covered only about 10% of the required financing gap, even with ongoing efforts toward reform.[73] Currently, for every dollar of development finance, MDBs mobilise only 20-38 cents from non-official sources of capital,[74] far below the $10 targeted by the G20 intergovernmental forum. Data also suggests that, across MDBs and DFIs, there is a lack of adequately priced financing.[75]

In contrast, research by Africa investor finds that the global institutional investment community – which collectively manages over US$200 trillion in assets – has the potential to close this gap by up to 90% by leveraging effective partnerships and aforementioned reforms.[76] Through a multicapital approach to investing, this potential could be unlocked.

Capital markets mobilisation for EMDEs can help drive economic growth, sustainability, and social development. However, investors' interpretations of risk and return in these markets result in returns that primarily favour the creditors. Typically, capital markets investors feature higher interest rates and shorter maturities (and thus higher debt servicing costs) on EMDE debt and are most often less flexible when it comes to debt restructuring than official creditors.[77]

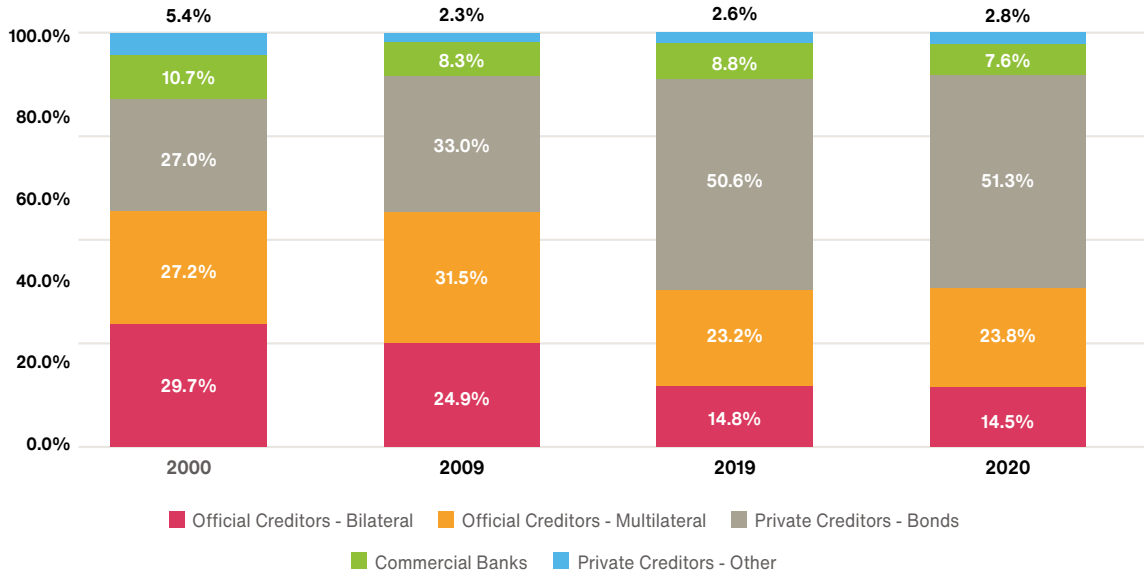


Figure 16: Developing countries' public sector long-term external debt by creditor (%)
Source: UNCTAD (2022)

Improved data and financial analysis tools are critical to help investors and companies analyse risks and opportunities from a systemic perspective. For instance, high inequality and poverty in EMDEs can lead to mass migration flows to more developed countries, straining these countries' resources and their ability to provide for an ever-expanding population with diverse needs. This rising intensity in mass migration can lead to social and political instability in developed regions, as well as protectionism and geopolitical conflict, thereby affecting markets. If analysts and portfolio managers had data and financial analysis tools to integrate these factors into investment decision-making, they may see greater risk in *not* investing in EMDEs at a systemic level, making the risk-return profile of doing so more attractive. This would have implications not only for the availability of financing, but also for the pricing of capital and restructuring or cancellation of debt.

A similar case could be made for rural areas in developed countries, or for SMEs. These often-overlooked areas of the economy not only hold untapped value and opportunity, but not investing in them can contribute to concentration of capital in few areas of the market, imbalanced growth, potential asset bubbles, and systemic inequalities, as well as rising polarisation.

Regenerative financial engineering: the need for innovative investment structures

To advance the five extraordinary turnarounds and Giant Leap scenario, investment opportunities will often require innovations in their structures. For instance, clean energy infrastructure projects in EMDEs have the potential to advance the energy turnaround. Yet they may benefit from investments from private capital funds with longer terms than a traditional 10-year closed-end fund, since these projects often take many years to develop.

Similarly for SMEs, not all are positioned be unicorns with "hockey-stick" style growth, but are critical to supporting certain localities and to fostering steady and stable growth. For these investments, traditional venture capital may be less appropriate than revenue-based financing – a hybrid quasi-equity / quasi-debt instrument whereby a company pays back an investor through a percentage of revenue over time as opposed to an interest rate.

And as previously mentioned, worker and community ownership models can more evenly distribute wealth and influence.

Where investment is needed in smaller companies and opportunities, there is the potential for fund managers to develop funds-of-funds, holding companies, and other aggregation products, while also balancing limits of market concentration.

Inclusive investment and corporate governance

Systemic global problems require systemic global solutions. While investors may sit at the top of the capital markets value chain with access to key levers for change, they will not necessarily have all the information needed to reduce negative impacts and pursue positive impacts. Workers and communities affected by investments will often have critical insight into local dynamics, emerging problems, and potential solutions.

It is critical that investors develop pathways to engage with stakeholders, such as through supporting freedom of association and collective bargaining, by establishing grievance mechanisms, conducting human rights due diligence, pursuing inclusive governance models, or including worker or community representatives on boards of directors – both at the corporate and investor levels. And it is critical that pioneering investors share learnings with each other. The British pension fund, Railpen, is helping fellow investors understand the business case for and practicalities around workforce directors.[78] Various relevant opportunities and the rationale for them are explored further in the paper, *Getting Ahead of the Curve on Dynamic Materiality: How U.S. Investors Can Foster More Inclusive Capitalism* by the Predistribution Initiative and Oxfam America.[79]

Co-creating an enabling policy and regulatory environment

> *"In the final analysis, public policy must depend on the consent of the governed. The proper role of government is to create the conditions under which individuals can freely cooperate and create the best outcomes."*
>
> **Eleanor Roosevelt**

Even as many investors begin to consider themselves Universal Owners and see the value in investing toward systemic stewardship, it is highly unlikely that *all* investors will voluntarily seek to make such adjustments. For those investors who do begin to account for externalities and reflect such reframed values in their investment decision-making, there is a risk of underperforming markets in the near term while many other investors still seek to benefit financially from the externalisation of costs. This results in a "tragedy of the commons" and "prisoner's dilemma" situation, whereby investors working to improve their actions are not operating on a level playing field with other investors.

This dynamic should not be a cause for lost hope. Accepting this situation as a given will jeopardise future economic and financial stability, threatening diversified portfolios and the Giant Leap scenario in the long term. As highlighted in *A Legal Framework for Impact*, many investors will see that they have a fiduciary duty to act prudently and with care, such that they should seek to promote a level playing field through key levers for change, including asset allocation, stewardship, and policy advocacy.[80] Data suggests that social tipping points – when a group of stakeholders becomes large enough to influence societal decisions – are realised at a roughly 25% threshold.[81] This means that if at least 25% of investors and their stakeholders take action to engage governments to level the playing field, governments and other stakeholders may feel that there is enough buy-in and consensus among constituencies to take these concerns seriously, producing a "snowball effect".

In order for policymakers and regulators to act, they need to hear from their constituents – *including but not limited to* investors, who have strong agency to support policy and regulatory reform. Furthermore, when investors co-create voluntary solutions alongside other stakeholders like workers, communities, and consumers, they provide an inclusive starting point for policymakers and regulators to refine and mandate. These kinds of co-created solutions also tend to garner greater buy-in from diverse populations, fostering strong potential for lasting and effective reform.

Solutions that are incubated and promoted from the top down – by those with wealth and influence in capital markets and amongst business leaders and without the input of workers and communities – are poorly positioned for broad-based support. This arguably is in part what has fueled resistance to sustainability and inclusion reforms in jurisdictions globally – not only in the U.S., but also Europe, Latin America, and other regions. There are lessons to be learned

from historical efforts of business and finance leaders pushing through changes they want to see without engaging affected populations. Effective and deeply inclusive engagement is more difficult, but it needs to be across regions, identities, cultures, and perspectives – including not only progressives and liberals, but also conservatives and those with differing views. Systems change is not top-down – effective and lasting solutions need to be co-created inclusively.

In this section, we highlight general areas where policy and regulation could support capital markets fuelling the Giant Leap scenario and five extraordinary turnarounds. These recommendations complement and enable Earth4All's overarching policy recommendations.[82]

Integrating capital markets into the International Financial Architecture Reform Agenda

> *"The scarcest resource is not oil, metals, clean air, capital, labour, or technology. It is our willingness to listen to each other and learn from each other and to seek the truth rather than seek to be right."*
>
> **Donella Meadows**

Today, governments are engaging in discussions about sustainable finance on the one hand and International Financial Architecture Reform (IFAR) on the other. These efforts tend not to intersect and are typically discussed by global leaders at a high level. With few pathways for public engagement or direct, distributed positive impacts for workers and communities, these dynamics contribute to deteriorating trust in institutions and political gridlock.

IFAR discussions largely involve MDBs, DFIs, and the public sector. These discussions center important topics, including leveling the playing field between countries that were colonised and their colonising counterparts. However, an aid-oriented approach alone largely misses opportunities to improve the functioning of global markets or prevent imbalances in the future. Financing solutions are often limited and dependent on debt financing and/or capital perceived to be taking concessionary returns, resulting in narrow, short-term solutions across select geographies. Aid remains critical to help rectify impacts of historical power imbalances and dynamics relating to colonialism, but new negative externalities will continue to emerge if the main financing engines of the world – banks and capital markets actors – do not evolve to be embrace more regenerative strategies.

In contrast, discussions about sustainable and inclusive practices in capital markets occur at industry conferences and among field-building institutions – largely distinct from IFAR forums. In capital markets forums, there is a greater focus on equity financing, which is badly needed in many areas around the world. However, status quo dynamics have led to the undervaluing of people and nature in economically distressed areas and the simultaneous overpricing of risk, resulting in limited capital allocations. When capital is allocated, it often comes with a

significant cost, deepening wealth and power disparities. The Giant Leap scenario will require fundamental adjustments to the world's financial architecture, with a strong focus not only on public development finance infrastructure, but also capital markets and central banks and the nexus between these actors.

Regenerative capital markets value marginalised groups across geographies

The cost of accelerating toward the SDGs ranges from an estimated US$5.4 trillion to US$6.4 trillion annually from 2023 to 2030, with a significant amount of the funding required in higher income countries on a total and per capita basis, as well as in Small Island Developing States on a per capita basis.[83] While Least Developed Countries face lower per capita costs, the required spending according to UN Trade and Development "is daunting when seen as a share of GDP" at over 40%.[84]

As highlighted in the Summit of the Future's Pact for the Future, EMDEs lack access to affordable long-term financing, and the SDGs will not be met unless financing gaps in these regions are closed.[85] Yet flows of capital to low-income countries are falling, with more capital leaving these countries than coming in.[86] The World Bank's International Debt Report highlights that private lenders have withdrawn more in service payments than they have provided in new financing, exacerbating the strain on these nations.[87]

IFAR discussions also tend to approach issues relating to the SDGs and five extraordinary turnarounds in the context of capital flows to the "Global South" versus the "Global North." In these discussions, there is little clarity about what populations fall into which group. Instead, there is a general understanding that the Global North includes higher-income countries, while the Global South includes low- and middle-income countries. Discussions and initiatives tend to prioritise financing for the Global South, which can foster resentment and resistance amongst marginalised and disadvantaged populations in the Global North who may perceive that resources are being diverted from domestic needs. These dynamics can also lead to political gridlock and withdrawals of support when it comes to global financing challenges such as the Paris Agreement.

Initiatives to address global disparity also tend to be addressed through ineffective "win-win" arrangements, such as loans from middle- and high-income countries to low-income countries that come with burdensome interest rates, grants that include onerous (and sometimes self-serving) procurement requirements,[88] and multilateral development assistance that requires detrimental austerity provisions.[89] At more extreme levels, socioeconomic inequality contributes to protectionist measures that can deepen trade wars and geopolitical conflicts.

Securing political will in developed countries to finance solutions in EMDEs requires an approach that also speaks to inequality and growing populist concerns in developed countries, without pitting low- and middle-income people across these different geographies against one another. Furthermore, efforts to support marginalized communities in the Global North also tend to focus on aid and redistribution, with rhetoric centering the "most marginalised" or "most vulnerable" and excluding considerations of predistribution and support for the broader middle class. Rather than broad generalisations about the Global North and Global South or most marginalised and vulnerable versus others, the IFAR discourse could instead embrace a narrative that prioritises marginalised people everywhere in the world, regardless of geography, and not just the most vulnerable, but also the middle class.

As highlighted by Earth4All's policy recommendations relating to "upgrading our economic system," governments and even investors such as pension funds can support these transformations by engaging with citizens' assemblies.[90] Solutions developed by those who already have power and wealth – and without the input, participation, and building of wealth and agency for those who are less well off – risk continuing to breed mistrust and a loss of faith in institutions.

The remainder of this section outlines specific reforms governments can integrate into IFAR discussions to more holistically integrate capital markets solutions.

Improving clarity on fiduciary duty, materiality, and data availability

Governments globally can support investors and companies in justifying mandates to reduce negative externalities and optimise positive externalities by clarifying that these efforts are within the realm of fiduciary duty. Further, they can encourage standard setters who shape disclosure and risk management frameworks to support investors and companies in measuring and managing their externalities, as well as promote business school training that advances these practices.

A Legal Framework for Impact

In addition to its guidance on the fiduciary duties of institutional investors, discussed earlier in this paper, *A Legal Framework for Impact* provides several key areas for legal reform and an appendix describing a set of policy options. The Summary Report on *A Legal Framework for Impact* also provides policy recommendations which can help facilitate and enhance the broader pursuit of sustainability impact goals by investors. In this paper, we have sought to summarise the policy and regulatory recommendations in the following form. We recommend referencing *A Legal Framework for Impact* for specific legal wording and details:

1. **Clarify and adjust legal duties:** policymakers should clarify the legal duties of investors to ensure that pursuing sustainability impact goals is not only permissible but encouraged, as long as financial returns are also prioritised. This could involve revising regulations and guidance on fiduciary duties to explicitly include the consideration of sustainability impacts.
2. **Encourage collaborative efforts:** there should be a presumption in favour of collaboration among investors to tackle large-scale sustainability challenges. This would involve creating legal frameworks that support and incentivise collective action among investors towards common sustainability goals.
3. **Enhance reporting and transparency:** regulators should mandate enhanced reporting requirements that allow investors to measure and disclose their sustainability impacts. This includes providing clear guidelines on how impact should be reported, which can help align investment practices with broader environmental and social objectives.

4. **Support long-term investment horizons:** policy measures should be introduced to support and promote long-term investment horizons, which are often more conducive to achieving significant sustainability impacts. This could involve adjusting tax policies, creating incentives, or removing barriers that currently favour short-termism in the investment industry.

5. **Incorporate sustainability into regulatory frameworks:** regulators should integrate sustainability considerations into existing financial regulations. This might involve revising regulatory frameworks to ensure that they do not inadvertently discourage or limit the pursuit of sustainability impact goals. These recommendations are aimed at creating an environment where investing for sustainability impact becomes mainstream, aligning financial returns with positive social and environmental outcomes.

Investment teams need better data to evaluate system-level risks over time, along with improved financial analysis tools to assess that data and its effect on the financial performance of their diversified portfolios. There is a potential role for governments to play in requiring reporting entities – both companies and investors – to provide estimates of how their negative impacts might contribute to negative externalities, which in turn affect economic performance, markets, and portfolios. This data would be useful not only to investors, but also policymakers and regulators as they consider what levers to pull to promote sustainable and equitable economic performance and financial stability. Data would also inform improved practices amongst ratings agencies, consultants, and actuaries, as it would enable an evolved understanding of risk, return, and value.

To support this process, governments could support the evolution of existing standard setters like the European Financial Reporting Advisory Group (EFRAG), GRI, and ISSB, as well as emerging initiatives such as the TISFD, which is anticipated to help investors understand how social externalities affect their diversified portfolios.[91] Governments could also support further development of guidance on context-based targets and foster consensus building, tailored to cultural and geographic contexts globally. As consensus is built around sound methodologies, governments can mandate audits of these estimates and methodologies.

When it comes to increased information and transparency around risk in EMDEs, the delayed release of the Global Emerging Markets (GEMs) Risk Database presents a key challenge which governments could address. The 24 MDBs that make up the GEMs Consortium – which provides a comprehensive, sustainable independent legal structure, with a dedicated budget to curate and disseminate MDB credit statistics and analysis – have provided restricted access to their data, falling short of the G20's directive to provide open access to a stand-alone database (GEMs 2.0) and failing to adequately support investors and credit rating agencies. This hinders transparency for capital markets investors and the accurate assessment of EMDE risks, thereby severely limiting investment flows and increasing the cost of capital for EMDEs.

Africa investor estimates that the recently scant publications and historical reluctance of the GEMs MDB consortium to democratise data has cost EMDEs at least US$15.6 billion annually over decades,[92] reflected in excess interest payments on loans and lost opportunities. The overpricing of EMDE risk underscores the urgent need for the immediate implementation of

GEMs 2.0 to democratise and empower transparency, global financial stability, and optimal financing for the five extraordinary turnarounds.

The Global Emerging Markets Risk Database, explained

The GEMs Consortium, is one of the world's largest credit risk databases for the emerging markets operations of its member institutions, comprised of 25 Multilateral Development Banks (MDBs) and Development Finance Institutions (DFIs). GEMs pools anonymised data on credit defaults on the loans extended by consortium members, the migrations of their clients' credit rating and the recoveries on defaulted projects in emerging markets and developing economies.

In return, members gain access to aggregate GEMs statistics on observed default rates; rating migration matrixes and recovery rates by geography, sector, time period; and various other dimensions.

GEMs statistics thus provide members with insight into geographies that are otherwise relatively poorly served in terms of empirical credit information.

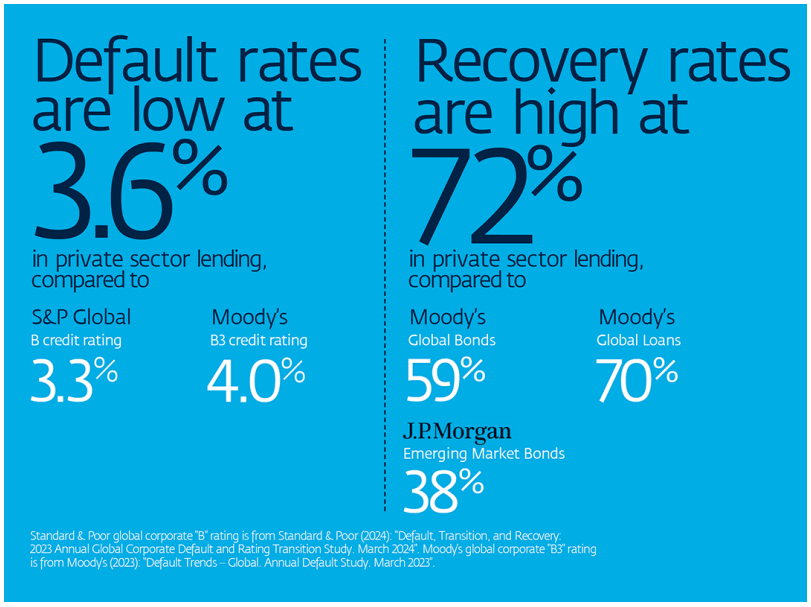


Figure 17: Source: International Finance Corporation (IFC). "Global Emerging Markets Risk Database Consortium." International Finance Corporation, accessed February 4, 2025.

The swift establishment of GEMs 2.0 and its evolution from mere disclosure to GEMs 3.0 – a broader asset allocation at-scale data platform initiative, with capital markets actors representing over US$200 trillion of assets – would help effectively advance EMDEs toward the Giant Leap scenario. This would require climate investment statesmanship from heads of state, as sovereign shareholders of MDBs.

This initiative would harness investor insights, innovate risk management strategies, and scale capital markets investment toward the five extraordinary turnarounds. It could also inform and support the production of improved information from ratings agencies, collectively accelerating the quantum of capital at more attractive, systemically-risk-adjusted pricing for EMDEs.

Collective action, institutional reform, and collaborative partnerships are essential to create a more inclusive and sustainable future. By working together to deliver capital mobilisation at scale, institutional investors and heads of state can champion shared prosperity, people, the planet, and nature. It is critical that MDBs democratise data useful to investment decision-making, and that they make "Development Investable" for private capital investors. By mainstreaming institutional investor-private-public partnerships, EMDEs can tap into extensive pools of private capital, expertise, and market capacity, unlocking new opportunities for sustainable economic development.

Globally, governments can support efforts to transform misperceptions of risk by promoting alternative approaches to credit scoring and supporting transparency of data.

Alternative credit scores in higher income countries

In developed markets, efforts to consider alternative credit scoring for lower-income individuals and SMEs are gaining traction, as traditional credit scoring models often exclude these groups. Institutions like the Federal Reserve of Kansas City[93] and the Consumer Financial Protection Bureau[94] have proposed initiatives and approaches to improve financial inclusion, leveraging the use of alternative credit data such as rent payments, utility bills, and other financial activities not typically recorded by traditional credit models.

Additionally, sophisticated alternative credit scoring models use phone data payments and social media activity to create more inclusive creditworthiness assessments. This helps individuals with thin credit files or no traditional credit history to more easily access credit in markets where data is better available through these channels.

Central banks: advancing an evolved meaning of value

Central banks have an important role to play in reforming private capital markets toward the Giant Leap scenario, which requires them to move beyond their concerns about market neutrality and rather embrace their (sometimes implied and sometimes direct) mandates to maintain market stability and avoid a Minsky moment.

While central bank mandates vary from country to country, their primary goal is to ensure nation-wide price stability, defined as low (most recently, a preferred approximate 2%) inflation over a sustained period. The working hypothesis is that the central bank will tighten its interest rate policy if inflation threatens. A second policy goal of some central banks – particularly the Federal Reserve, which is arguably the most influential central bank globally – is to procure full employment and growth of the nation's real economy. In the case of the European Central Bank (ECB), objectives include facilitating the transition to a green economy, without prejudice to its primary objective of price stability. The third policy ambition is to preserve financial market integrity and stability.

Earth 4All

Worldwide, there is growing recognition of an emerging polycrisis that could threaten financial stability.

Worldwide, there is growing recognition of an emerging polycrisis that could threaten financial stability. For instance, climate change, global natural disasters, and biodiversity loss are leading to supply chain disruptions, while reliance on fossil fuels leaves society vulnerable to price instability influenced by supply quota setting.[95] From a social perspective, corporate and market concentration may contribute to monopoly or monopsony power, as well as asset price inflation in corners of the market, all of which affect price stability.[96] Rising socioeconomic inequality, particularly in developed countries, is contributing to polarisation and protectionism, exacerbating geopolitical tensions, fostering trade wars, and thereby further disrupting global supply. Lack of capital with systemically risk-adjusted pricing for climate adaptation in developing and rural regions could further disrupt supply chains.

Increasingly, data suggests that socioeconomic inequality can lead to price and financial instability through dynamics of secular stagnation, asset bubbles, and credit crises.[97] Yet the closest central banks come to considering inequality as part of their core mandates is their focus on employment, which on a stand-alone basis is an outdated measure. When the Federal Reserve adopted its dual mandate of price and employment stability in 1977, the nature of employment was much different than it is today. Earning a living wage was more possible. The gig economy did not yet exist. Part-time and contingent work were less common. Wage gaps between workers and executives were much lower, and the economy was less financialised. It was thus reasonable to use employment to estimate impacts on inflation, because employment on its own was sufficient to drive aggregate spending in the economy. Today's realities are much more complex and deserve attention and rethinking. Due to a decrease in worker power, the relationship between unemployment and inflation has weakened, as reflected in the flattening of the Phillips Curve.

A lack of attention to inequality, climate change, and biodiversity loss, among other drivers of this emerging polycrisis – including supply chain shocks and concentration in housing, healthcare, and education – may help explain recent struggles with inflation and lingering concerns that it might reemerge across developed economies. These are dynamics for which interest rates and monetary policy, as blunt tools, are not well-suited.

In 2022, the demise of the 20th largest US regional bank, Silicon Valley Bank, took many people by surprise, triggering a crisis of confidence in the global financial system. Even greater financial instability could unfold, should the physical and liability risks of natural disasters on both sides of the Atlantic wipe out the capital and reserve base of the top five property and casualty insurance companies along with the top three reinsurance companies. Only about one-quarter of climate-related catastrophe losses are currently insured in the EU, and in some countries, the figure is less than 5%.[98] The current central bank toolkit is primed for an update.

Given central bank mandates, a logical next step would be to incentivise a reduction of climate risk, biodiversity loss, and socioeconomic inequality on an institutional and system-level. In line with recommendations for private capital actors, and to further support them by adjusting the cost of capital accordingly, central banks could start articulating an ecocentric and prosocial

monetary policy approach, revisiting the framing of value methodology while assessing the cost of inaction. As economist and member of the ECB's Executive Board Isabel Schnabel recently explained, "....the longer the risks of global warming are ignored and policy action delayed, the higher the risks of very large and persistent shocks to output and inflation...."[99]

In recent years, central banks globally have started to recognise the significance of planetary boundaries, biodiversity loss, climate change, and other environmental risks to their mandates. For instance, the ECB is considering how to leverage its supervisory authority to make banks more resilient to climate and environment risk. In a speech at the European Banking Federation Executive Committee meeting, Frank Elderson – member of the ECB's Executive Board and Vice-Chair of the bank's Supervisory Board – stressed that the ECB has urged banks under its supervision to integrate climate- and nature-related risks into their strategies, governance, and risk management. Binding supervisory decisions with a threat of penalty were issued to banks that had not adequately conducted materiality assessments of climate- and nature-related risks.[100]

In recent years, central banks globally have started to recognise the significance of planetary boundaries, biodiversity loss, climate change, and other environmental risks to their mandates.

In 2021, the ECB presented an action plan to incorporate climate change considerations into its monetary policy framework, which focused on macroeconomic models to monitor the implications of climate change for monetary policy transmission, as well as statistical data for climate change risk analysis. The ECB also announced that it would conduct climate stress tests of the Eurosystem balance sheet and take climate change risks into account in due diligence procedures for corporate sector asset purchases in its monetary policy portfolios.[101]

Other central banks, such as the People's Bank of China and the Bank of Japan, are actively purchasing green bonds, supporting the development of green finance markets. In 2021, the Bank of England conducted a climate stress test to assess the resilience of the financial sector to climate-related risks.[102]

A tangible next step would be to link monetary policy metrics with non-monetary aggregates. A central bank would be held accountable for monitoring non-monetary targets, such as emerging scientific data regarding exceeded planetary boundaries, extreme rates of biodiversity loss, vast inequality across market actors, fast approaching tipping points, unrelenting increase of atmospheric CO_2, and renewable energy price levels. Social and environmental taxonomies, designed with context-based thresholds and allocations in mind, are critical to the implementation of this evolved mandate. These taxonomies would support both private sector actors in measuring and managing their externalities, as well as central banks in informing improved interest rates and incentives for markets.[103] The overarching ambition would be to supervise material supply-side factors impacting price volatility and financial stability. This evolution would thus incentivise capital to flow toward the five extraordinary turnarounds through amended monetary policy tools, healing and regenerating stressed supply-side factors.

In a broader ambition, central banks could also assign value to and define natural capital assets that are vital to planetary equilibrium as well as human quality of life, and by extension human survival. Such assets include, but are not limited to, natural carbon sinks, wetlands, mangroves, and tropical rainforests. Combined, these natural capital assets could become a principal subset of the global asset base, comprising the new risk-free asset base, from which all else is being priced and valued.

Central banks could also incorporate inequality metrics (i.e., the Gini coefficient), which could help avoid unintended negative consequences that have historically occurred as a result of dovish monetary policies. Low interest rates limit real interest income typically derived from fixed income securities, incentivising investors to migrate up the risk-return spectrum for yield. This has led to an accumulation of debt and high asset prices, leaving market stability dependent on low interest rates and incentivising even more debt and high asset prices, which can contribute to inequality and leave markets vulnerable should a rise in interest rates be needed.[104]

Reevaluating the relationship between interest rates and inequality

An example of the relationship between inequality and low interest rates may be witnessed in the U.S. housing market, whereby wealthier individuals, businesses, and investors were able to take advantage of low-cost debt disproportionately more than those less well-off. This dynamic contributed to asset price inflation and the pricing out of many prospective individual homeowners.

Low-cost debt is also associated with market concentration, as companies and investors with assets are able to take advantage of leverage to finance mergers and acquisitions.[105]

Critically, a closer examination of the relationship between inequality and price stability may highlight the limitations of central banks' tools in addressing financial stability. Our global economy has long been dependent on the belief that debt financing fosters growth. Yet with global debt levels reaching US$313 trillion in 2023 and asset prices reaching all-time highs, low interest rates and quantitative easing may be a driving force behind an ever-growing, financialised, and fragile economy.[106]

As ultimate stewards of well-functioning financial systems, sitting at the top of banking and capital markets value chains, it is up to central banks to set incentives for markets to maintain social, environmental, and therefore economic and financial stability through new tools that more adequately account for risk, return, and value across the various capitals. Yet like investors, these banks do not have the data, financial analysis tools, or clarity of mandates to support this approach.

Central banks could consider several policy reforms. Two examples are included below, recognising that different central banks face varying limitations and opportunities. As such, a one-size fits all approach will not work. Because of the global influence of certain central banks – such as the Federal Reserve, European Central Bank, Bank of England, Bank of Japan, and Bank of China – these recommendations are particularly designed for such actors. Ultimately, if these major central banks reform their mandates to include measures to reduce global

inequality between countries, these changes could also fuel the five extraordinary turnarounds to reduce inequality between central banks themselves, while growing empowerment and leading to faster achievement of the SDGs.

First, major central banks could design an interest rate monetary policy distinguished by two factors: on the one hand, the general interest rate policy rate and on the other hand, an ecocentric incentive margin. The latter would be subtracted from the interest rate policy rate and offered to cooling, carbon-nimble, and biodiversity-enhancing activities with a just transition lens. The magnitude of the margin would be modified as a function of the remaining carbon reserve, a proxy for the rate of global transition, the trend development of observable CO_2 concentration (ppm), and other features of environmental and social taxonomies grounded in planetary boundaries and social norms. This approach would need an integrated dashboard of climate, biodiversity, and social risk variables in addition to taxonomies. The lower rate would specifically support the five extraordinary turnarounds.

Second, central banks could help introduce and monitor a unified and ubiquitous 24/7/365 carbon market, calibrated as the cost of polluting one tonne of CO_2. Unlike carbon credits, a 24/7/365 carbon market ensures that companies can power their operations with clean energy at all times. This could encourage companies and industries to internalise the cost of carbon emissions, making sustainability a core consideration in their operations. Establishing a calibrated and consistent cost per ton of CO_2 would effectively incentivise emission reductions, while also creating predictability for businesses and facilitating long-term planning and investment in low-carbon technologies.

This ambition would be guided by the design features of ICE Carbon Futures contract, as a weighted average of four cap-and-trade emissions programs: Europe (EU-ETS), Western Climate Initiative (California), UK ETS, and Regional Greenhouse Gas Initiative (RGGI) in the eastern United States. The futures contract could be expanded by the continued rollout of carbon compliance markets in each of the Paris Agreement signatory countries. Such price discovery would tremendously stimulate the fortune of three (poverty, food, and energy systems) of the five extraordinary turnarounds.

IFAR initiatives could also focus not only on top-down, government-to-government support, or even large institutions within the private sector, but on evolving capital markets in ways that more directly build wealth with people “on the ground.”

Incentivising innovative investment structures and business model reforms

IFAR initiatives could also focus not only on top-down, government-to-government support, or even large institutions within the private sector, but on evolving capital markets in ways that more directly build wealth with people “on the ground.” This would require expanding from a narrow focus on national priorities to also focusing on local priorities. Capital markets – particularly diverse and emerging fund managers – are well-positioned to have this reach. Governments could provide incentives for emerging managers, SMEs, and deal structures

that include workers and communities in equity ownership and governance of projects and companies. Such transactions, which build wealth through private capital channels that directly reach people on the ground, may be less prone to the corruption and special interests sometimes experienced through government-to-government support or via major trade deals influenced by powerful industry lobbies.

DFIs and governments can play a significant role in these deal structures. In Canada, the United Kingdom, and the United States, successful models demonstrate how government incentives and affordably priced debt can help facilitate these transactions. Promoting these more regenerative and inclusive investment structures helps ensure that global initiatives reach local communities. In addition to the below feature, the Predistribution Initiative has also produced information on these types of structures and incentives.[107]

Development Finance Institution support for Indigenous communities

The Canadian Development Finance Institution (FinDev Canada)[108] supports Indigenous ownership of infrastructure projects by providing tailored financial products, incentivising capacity building, and fostering partnerships. The institution offers loans, guarantees, and other financial services to help Indigenous communities invest in major projects, ensuring they can secure and manage equity stakes.

This financial support is complemented by capacity-building initiatives, which include training and advisory services to help communities effectively govern and benefit from their investments. FinDev Canada collaborates with organisations like the First Nations Major Projects Coalition (FNMPC) to leverage resources and expertise in legal, financial, and environmental matters and help Indigenous communities secure and manage investments for major infrastructure projects. This model fosters partnerships and aims to ensure that projects are sustainable and beneficial to the communities, promoting long-term economic self-sufficiency and participation in governance.

This shift would enable the IFAR agenda to more effectively address the poverty, inequality, and empowerment turnarounds, which we argue are the essential foundations for addressing the food and energy turnaround challenges of our times. Ultimately, turnarounds and transitions are for people, and the most effective solutions will be developed together with affected people, but only if they have the economic security and political voice to be able to participate.

Support for trade and other public policy proposals

Of course, interventions in private capital markets cannot exist in a vacuum. Existing IFAR efforts and proposals will also be critical to developing holistic and effective solutions. Trade and fiscal policy reform are needed for an enabling environment – for instance, to overcome barriers to EMDE development.

By upholding their responsibilities to foster ethical standards and promote sustainable practices, both governments and global institutional investors can support long-term economic stability and development. One way of doing this is by endorsing and adopting policy recommendations to regulate thresholds against low levels of trade in value-added (TIVA) goods[109] as a punitive discriminatory trade practice, as has been done in Africa. Endorsing and adopting such regulation is crucial for advancing human rights, promoting equitable economic development, accelerating the just transition, and ensuring the sustainability of investments, people, and the planet.

Additionally, the Model Law on Institutional Investor-Public Partnerships (ML-IIPPs)[110] offers another solution. A legal framework that seeks to mobilise private capital at scale, ML-IIPPs can be deployed at speed to deliver the projects necessary to accomplish EMDEs' Nationally Determined Contributions and the SDG commitments. The Model Law is designed to deliver the fast tracking, de-risking, and scaling of private capital participation in green infrastructure projects and investment programs through the formation of Institutional Investor-Public Partnerships (IIPPs).

Capital mobilisation toward EMDEs can also be supported by adopting a multipolar geopolitical industrial trade policy[111] that prioritises climate investments over immediate export revenue benefits. A multipolar approach not only yields competitive returns and capitalises on the expanding global green industrial economy - it also drives technological innovation, strengthens geopolitical alliances, and enhances domestic economic resilience. By leading on multipolar green industrial policy, industrialised nations can secure their economic future, address the just energy transition, and arrest global climate challenges while demonstrating leadership commitment to a more equitable and sustainable world.

The rise of geoeconomics with the expanding role of BRICS (Brazil, Russia, India, China, and South Africa) reflects a reshaping of global trade and investment flows. As these emerging economies continue to grow and collaborate, the global economic and geopolitical landscape will become increasingly diverse and multipolar, fostering a more balanced distribution of power and influence across the world which could further support a just transition.

Conclusion

The time for incrementalism has passed, and markets are no longer working in our favour. Calls for international financial architecture reform are welcome, but we cannot leave solutions to government and development aid alone, particularly at a time when most national aid budgets have been seriously cut. To sustainably address our global challenges, we need to reform capital markets, which now comprise approximately half of all financial assets. To enable a just transition, the five extraordinary turnarounds, and the Giant Leap scenario, capital market actors will need to shift their focus from overly financialised activities that concentrate wealth and power at the expense of society and nature more broadly, and instead focus on meeting real-world needs.

Further clarifying the existing interpretation of fiduciary duties by revising guidance to include a responsibility to reduce and avoid negative externalities would empower private capital actors to think about risk, return, and value in ways that center all capitals. Social and environmental taxonomies grounded in context-specific planetary boundaries and social norms, complemented with new financial analysis tools and improved risk data on EMDEs, would support private capital actors in implementing this evolved mandate. Such taxonomies and sources of data could also support central banks in understanding what activities influence financial stability, as well as how to price money and capital in ways that recognise the value of human, social, and natural capital.

Importantly, effective transformations and societal solutions must be developed in inclusive ways. It is imperative that citizens around the world, across rural and urban areas, in low- and high-income economies and across cultures and political views feel that they have a voice in, are seen by, and benefit from these transformations. There have been and will continue to be many good ideas for market reform, but rising inequality and growing disenfranchisement contribute to national and geopolitical tensions that reflect an erosion of trust and effective decision-making. Wealth building alongside co-creation efforts with citizens globally can help restore trust and constructive pathways.

This paper is designed to be one contribution in a larger arc of work around international financial architecture reform – bringing capital markets more into focus - and it complements a series of additional papers on the five turnarounds and Giant Leap scenario in *Earth for All*. It is designed as a roadmap with a series of interconnected proposals and launchpad for discussions at global conferences and amongst governments. As a next step, the authors and Club of Rome also intend to conduct roundtables to socialise, fine-tune, and workshop recommendations to catalyse actual actions and change. Only through partnership and conversation can real, meaningful solutions be identified and implemented, guiding our planet toward a future that leaves the status quo behind and takes the Giant Leap needed to cultivate, regenerate, and return value to all.

Glossary

Key Concepts

- **Asset Owner or Allocator:** For the purposes of this paper, this term includes pension funds, insurance companies, sovereign wealth funds, foundations, endowments, and family offices, as well as their beneficiaries.
- **Development Finance Institutions (DFIs):** Specialised development banks or subsidiaries set up to support private sector development in Emerging Markets and Developing Economies. They are usually majority-owned by national governments and source their capital from national or international development funds or benefit from government guarantees. This ensures their creditworthiness, which enables them to raise large amounts of money on international capital markets and provide financing on very competitive terms.[112]
- **Emerging Markets and Developing Economies (EMDEs):** Countries that are in the process of industrialisation, economic growth, and integration into the global economy but have not yet reached the level of advanced economies in terms of income, industrialisation, and institutional maturity.[113]
- **Exchange Traded Funds (ETF):** Funds that track indexes like the NASDAQ-100 Index, S&P 500, Dow Jones, etc. The shares of an ETF are shares of a portfolio that tracks the yield and return of its native index. The main difference between ETFs and other types of funds is that ETFs don't try to outperform their corresponding index, but simply seek to replicate its performance.[114]
- **Financialisation:** The increasing influence of financial motives, markets, instruments, actors, and institutions in both domestic and international economies. It involves the growing dominance of finance tools in firm management, the impact of financial markets on decision-making, and the significance of the global financial system in capital distribution worldwide.[115]
- **Five extraordinary turnarounds:** Set of policy goals that Earth4All proposed to achieve global wellbeing by 2050 whilst protecting the planet.[116]
- **Global Emerging Markets Risk Database (GEMs) Consortium:** One of the largest credit risk databases for EMDEs.
- **Gross Domestic Product (GDP):** Measures the monetary value of final goods and services—that is, those that are bought by the final user—produced in a country in a given period of time (e.g., a quarter or a year). It counts all the output generated within the borders of a country. GDP is composed of goods and services produced for sale in the market and includes some nonmarket production, such as defence or education services provided by the government.[117]
- **Impacts, dependencies, risks, and opportunities (IDRO):** Interconnected elements that organisations analyse to understand their relationship with the environment, society, and economy in order to make informed decisions to enhance their sustainability and value creation.
- **Impact materiality:** Impacts on people and the environment in their investment activities, regardless of financial return implications.[118]
- **International Financial Architecture Reform (IFAR):** Actions taken by various actors internationally to reform international financial architecture.
- **Just transition:** Typically defined as ensuring that no one is left behind or pushed behind in the transition to low-carbon and environmentally sustainable economies and societies (can also be applied to technological and other transitions).[119]
- **Least Developed Countries (LDCs):** Low-income countries confronting severe structural impediments to sustainable development. They are highly vulnerable to economic and environmental shocks and have low levels of human assets.[120]
- **Macroprudential policy:** A more systemic approach to financial regulation and supervision. These financial policies are aimed at ensuring the stability of the financial system as a whole to prevent substantial disruptions in credit and other vital financial services necessary for stable economic growth.[121]

- **Model Law on Institutional Investor-Public Partnerships (ML-IIPPs):** A legal framework to mobilise private capital participation in African 'green' infrastructure investment programmes and 'green' infrastructure projects.[122]
- **Multicapitalism:** The maintenance of all vital capitals (natural, human, social, intellectual, constructed, and financial) important to all of us, and not just one of them important to only some of us.[123]
- **Multilateral Development Banks (MDBs):** Supranational financial institutions that support developing countries to help them achieve various goals. While the support is primarily financial, many MDBs have accumulated a good deal of experience, which allows them to propose non-financial services too, such as policy advice, capacity building, technical assistance and training.[124]
- **Nationally Determined Contributions (NDCs):** National climate action plans by each country under the Paris Agreement. A country's NDC outlines how it plans to reduce greenhouse gas emissions to help meet the global goal of limiting temperature rise to 1.5C and adapt to the impacts of climate change. The Paris Agreement requires that NDCs are updated every five years with increasingly higher ambition, taking into consideration each country's capacity.[125]
- **Non-bank Financial Intermediaries (NBFIs):** Financial institutions that do not have a full banking license and cannot accept deposits from the public. However, NBFIs do facilitate alternative financial services, such as investment (both collective and individual), risk pooling, financial consulting, brokering, money transmission, and cheque cashing. NBFIs are a source of consumer credit (along with licensed banks). These non-bank financial institutions provide services that are not necessarily suited to banks, serve as competition to banks, and specialise in sectors or groups.[126]
- **Planetary boundaries:** The safe limits for human pressure on the nine critical processes which together maintain a stable and resilient Earth. Boundaries are interrelated processes within the complex biophysical Earth system. Planetary boundaries cannot be considered in isolation in any decision making on sustainability.[127]
- **Precautionary principle:** When there is a threat of serious or irreversible environmental damage, scientific uncertainty should not be used as a reason to delay cost-effective measures to prevent environmental degradation.[128]
- **Predistribution:** In the context of this paper, a concept in which financial capital more adequately values human, social, and natural capital. In this paradigm, investors – who set the incentives for companies and other investees - factor the risks that people and nature take, and the value that they create into investment decision-making, financial analysis, and the distribution of returns.
- **Regenerative finance:** A financial framework that honours ecological harmony and equitable wellbeing throughout the world.[129]
- **Single financial materiality:** The concept of risks and opportunities specific to matters that influence enterprise value or the financial return of an individual investee.[130]
- **Small- and medium-sized enterprises (SMEs):** Companies that employ fewer than 250 people. SMEs are further subdivided into micro enterprises (fewer than 10 employees), small enterprises (10 to 49 employees), and medium-sized enterprises (50 to 249 employees).[131]
- **Small Island Developing States (SIDS):** Distinct group of States and Associate Members of United Nations regional commissions that face unique social, economic and environmental vulnerabilities. SIDS were recognised as a special case both for their environment and development at the 1992 United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil.[132]
- **Sustainable Development Performance Indicators (SDPIs):** Indicators that measure the sustainability performance of economic entities, including both for-profit enterprises and social and solidarity economy organisations. They assess impacts or performance against norms and thresholds that indicate a target consistent with the notion of sustainable development, as well as shed light on ignored or neglected issue areas within current measurement and reporting models.[133]

- **Tipping point:** The point at which a series of small changes or incidents becomes significant enough to cause a larger, more important, and often irreversible change.[134]
- **Trade in value-added (TIVA) goods:** Goods that consider the value added by each country in the production of goods and services that are consumed worldwide. TiVA indicators are designed to better inform policy makers by providing new insights into the commercial relations between nations.[135]
- **Universal ownership:** Theory that states that since large institutional investors are highly-diversified and their long-term portfolios are sufficiently representative of global capital markets, they effectively hold a slice of the overall market, making their investment returns dependent on the continuing good health of the overall economy.
- **Sustainable Development Goals (SDGs):** Set of 17 goals and 169 targets adopted in 2025 by all countries in a global partnership as a call to action for peace and prosperity for people and the planet. They recognise that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.[136]
- **24/7/365 carbon market:** The market infrastructure and practice to significantly reduce power sector emissions to provide electricity from zero emitting resources 24 hours a day, 7 days a week, 365 days a year.[137]

Footnotes

1. Financial Stability Board (FSB), "Global Monitoring Report on Non-bank Financial Intermediation 2023," FSB, December 18, 2023, https://www.fsb.org/2023/12/global-monitoring-report-on-non-bank-financial-intermediation-2023/

2. Systematic risks refer to non-diversifiable risks originating from the market's dependencies on people and nature. Systemic risks refer to any major disturbance in systems that results in cascading effects for the economy and financial system. Throughout this paper, these risks are sometimes named specifically, or collectively referred to as "system-level risks." For further context, please see: Impact Management Platform (2023), The Imperative for Impact Management. Available at: https://impactmanagementplatform.org/wp-content/uploads/2023/06/The-Imperative-for-Impact-Management.pdf

3. Please refer to later references in this document for sources.

4. Ramsey Al-Rikabi, "World Bank Calls for Debt Relief as Funds Flee Poor Countries", Bloomberg, https://www.bloomberg.com/news/articles/2024-12-03/world-bank-calls-for-debt-relief-as-funds-flee-poor-countries

5. Ruchir Sharma, "The US economic boom is a mirage," Financial Times, https://www.ft.com/content/8af2ad3b-dca0-4add-bbc8-55fc28184f34

6. Doughnut Economics Action Lab (DEAL), "About Doughnut Economics," DEAL, https://doughnuteconomics.org/about-doughnut-economics

7. Stockholm Resilience Centre, "Planetary Boundaries," Stockholm University, https://www.stockholmresilience.org/research/planetary-boundaries.html

8. The United Nations (UN) Sustainable Development Goals (SDGs) were developed as part of the 2030 Agenda for Sustainable Development, adopted by all UN members in 2015. There are 17 SDGs focused on peace and prosperity for humanity while preserving the environment and nature. More information on SDGs can be found here: https://unstats.un.org/sdgs/report/2024/

9. Organisation for Economic Co-operation and Development (OECD), "Centre on Well-being, Inclusion, Sustainability and Equal Opportunity," OECD WISE, https://www.oecd.org/en/about/directorates/centre-on-well-being-inclusion-sustainability-and-equal-opportunity.html

10. Maximilian Kotz, Anders Levermann, and Leonie Wenz, "The economic commitment of climate change," Potsdam Institute for Climate Impact Research, https://www.pik-potsdam.de/en/news/latest-news/38-trillion-dollars-in-damages-each-year-world-economy-already-committed-to-income-reduction-of-19-due-to-climate-change

11. Financial Stability Board (FSB), "Global Monitoring Report on Non-bank Financial Intermediation 2023," FSB, https://www.fsb.org/2023/12/global-monitoring-report-on-non-bank-financial-intermediation-2023/

12. For reference and further reading on financialisation, see ScienceDirect which has a collection of research on the topic: https://www.sciencedirect.com/topics/economics-econometrics-and-finance/financialization#recommended-publications

13. Capital Institute, "Finance for a Regenerative World," Capital Institute, https://capitalinstitute.org/finance-for-a-regenerative-world/

14. The Club of Rome, "From financing change to changing finance," The Club of Rome, https://www.clubofrome.org/publication/changing-finance/

15. Later sections of this paper discuss the disconnect between dialogues taking place at a global level regarding IFAR, versus those focused on scaling capital markets allocations in the context of sustainable and inclusive solutions. Uniting these global discourses is a key recommendation.

16. For the purposes of this paper, we refer to "investees" as inclusive of asset managers, as well as issuers of securities across public and private equity, public and private credit, various forms of bonds, real estate, infrastructure assets, and structured products.

17. The specific pathways or channels through which asset owners and allocators can influence investees and their effectiveness is widely debated, and effectiveness of various solutions relating to capital allocation and engagement vary across asset classes. This paper is based on the premise that some of these approaches are currently not as effective as they could be given lack of accounting and financial analysis tools to value systemic and systematic risks and return relating to issues such as climate change, inequality, and biodiversity loss. Market structure relating to the dominance of passive investing may also be inhibiting active stewardship needed for change. However, if the systemic or systematic risk of inaction were factored into financial returns, then this could conceivably incentivise and catalyse changes in market structure driven by investor demand.

18. This diagram – from the below source - departs from the primary approach of this paper by breaking out asset managers and investees. In addition, the diagram could conceivably be circular, since ultimately some of the people on the far left of this image are also the savers and beneficiaries of pension funds, sovereign wealth funds, etc.

19. Mike McCreless and Delilah Rothenberg, "Investor Influence in Private Markets," Impact Frontiers and the Predistribution Initiative, October 2024, https://impactfrontiers.org/wp-content/uploads/2024/10/Investor-Influence-White-Paper.pdf; Note that a more complex and comprehensive version of this diagram, including the role of systems, is included in the white paper, whereas a simplified version is used above. Additionally, the white paper primarily focused on private capital markets, including private equity, private debt, and venture capital. However, the extent of investor influence in public equities and to a certain extent fixed income is debated. While investors may have more ability to influence the cost of capital for issuers in fixed income markets based on allocation decisions, in public equities, influence is often exercised through engagement. The rise of responsible and impact investing occurred in tandem with the growth in passive investing in public equities; thus while engagement between investors and management is a path of influence, it may be more limited given the evolution in market structure. For additional work on the topic of investor influence, readers may also be interested in The Investment Integration Project's paper, (Re) Calibrating Feedback Loops: https://tiiproject.com/wp-content/uploads/2023/12/12-6-23-ReCalibrating-Feedback-Loops-FINAL.pdf.

20. Retail investors and high net worth individuals are also asset owners, but not mentioned since this paper is designed to focus on institutional investors who hold significant concentrated influence and have institutional policies, procedures, and practices which have significantly shaped capital markets.

21. G20 Independent Experts Group, "Strengthening Multilateral Development Banks: The Triple Agenda," Center for Global Development, https://www.cgdev.org/publication/strengthening-multilateral-development-banks-triple-agenda.

22. Delilah Rothenberg, Raphaele Chappe, and Amanda Feldman, "ESG 2.0: Measuring & Managing Investor Risks Beyond the Enterprise-level," The Predistribution Initiative, April 6, 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3820316; Negative impacts and system-level financial risks which can manifest from growing fund manager concentration include: Smaller, emerging, diverse, and innovative fund managers can be starved of capital; there is lower diversification across talent, geography, access to deal flow, deal sizes, and deal structures which may be more regenerative, resilient, and undervalued; compensation models based on percentage of assets under management exacerbates wealth inequality; wealth inequality results in the few being able to buy most assets, pushing up valuations and increasing barriers to entry to invest; increased inequality leads to secular stagnation, reduced economic growth, and social and market instability; wealth concentration leads to power imbalances when it comes to influencing policy (e.g. lobbying and political spend); there is a growing misalignment of interests since asset managers are rewarded for asset gathering versus performance; and, investors lose influence over oversubscribed asset managers when it comes to sustainability. Negative impacts of capital flowing to larger and fewer deals include: reduced portfolio diversification, portfolio resiliency, and inclusion; capital chasing the same few deals, which can lead to higher valuations, lower returns, and incentives to layer on leverage to magnify returns; and corporate consolidation, which can cause a reduction in the quality and affordability of goods and services, lower market dynamism and stifle SMEs which are outcompeted by larger firms, and monopsony dynamics which occur when the largest firms gain so much power that they can dictate labour market pricing. Many of these dynamics

may contribute to asset bubbles and credit crises. Another recent publication on this topic is the book, The Power of Twelve: When a Few Financial Institutions Control Everything by John Coates.

23. Delilah Rothenberg, Raphaele Chappe, and Amanda Feldman, "ESG 2.0: Measuring & Managing Investor Risks Beyond the Enterprise-level," The Predistribution Initiative, April 6, 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3820316; A number of inhibitors, including high transaction costs relative to smaller deal sizes are outlined in ESG 2.0.

24. Systematic risks refer to non-diversifiable risks originating from the market's dependencies on people and nature. Systemic risks refer to any major disturbance in systems that results in cascading effects for the economy and financial system. Throughout this paper, these risks are sometimes named specifically, or collectively referred to as "system-level risks." For further context, please see: Impact Management Platform (2023), The Imperative for Impact Management. Available at: https://impactmanagementplatform.org/wp-content/uploads/2023/06/The-Imperative-for-Impact-Management.pdf.

25. John Lukomnik and James P. Haley, Moving Beyond Modern Portfolio Theory: Investing That Matters, (Routledge: 2021), page 32.

26. Maximilian Kotz, Anders Levermann, and Leonie Wenz, "The economic commitment of climate change," Potsdam Institute for Climate Impact Research, https://www.pik-potsdam.de/en/news/latest-news/38-trillion-dollars-in-damages-each-year-world-economy-already-committed-to-income-reduction-of-19-due-to-climate-change; Celso Brunetti et al, "Climate Change and Financial Stability," Board of Governors of the Federal Reserve System FEDS Notes, https://www.federalreserve.gov/econres/notes/feds-notes/climate-change-and-financial-stability-20210319.html.

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