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Greening Sovereign Debt Performance

Shared Risk and Rewards in Financing the Transition

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FINANCE FOR BIODIVERSITY Initiative

Greening Sovereign Debt Performance

Shared Risk and Rewards in Financing the Transition

About this report

This report sets out the case for moving sovereign debt markets towards the explicit valuation of natural capital, and for greater use of performance-linked instruments to deepen creditor and debtor sharing of associated risks and opportunities. Advancing these two developments would be a much needed and timely development in addressing the short-term debt crisis and long-term, structural sovereign debt challenges, and the urgent need to finance the transition to a net zero, nature positive world.

This paper is aimed at participants active in sovereign debt markets, including issuers and investors. It is also highly relevant to a wider set of policymakers and financial market participants interested in increasing the resilience of financial markets and scaling up sustainable finance.

This is the fifth report released by Finance for Biodiversity (F4B) as part of its efforts to integrate natural capital into the world's sovereign debt markets. Moreover, it sets the scene for three forthcoming publications: one summarising the first quantitative effort to integrate nature risks into sovereign credit ratings; one laying out the case and proposed methodology for building nature as well as climate into sovereign debt sustainability assessments; and one with Vivid Economics deepening our assessment and recommendations of how China could champion a new generation of nature- and climate-linked performance sovereign debt instruments and markets.

Acknowledgements

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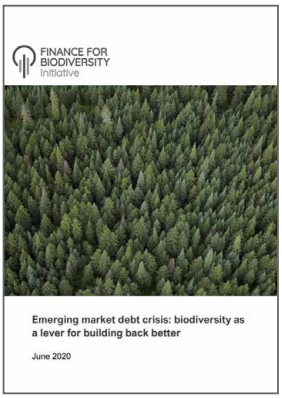
Comments and queries about this report, our broader debt workstream, and other Finance for Biodiversity workstreams, should be addressed to contact@f4b-initiative.net.

Finance for Biodiversity's Nature and Sovereign Debt Workstream



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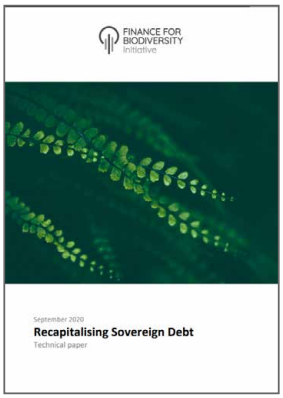

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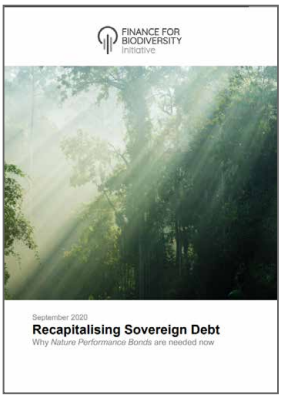

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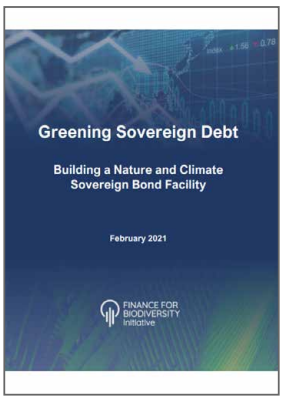

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About FINANCE FOR BIODIVERSITY Initiative

F4B's goal is to increase the materiality of biodiversity in financial decision-making, and so better align global finance with environmental conservation and restoration.

Our work on debt draws from the entirety of our portfolio, which is organised across five workstreams:

- **Market efficiency and innovation:** including a leadership role in the Taskforce on Nature-related Financial Disclosures (TNFD), and support to several data- and fintech-linked initiatives.
- **Enhanced liability:** extending the legal liabilities of financial institutions for biodiversity outcomes, including innovations such as legal personhood for nature.
- **Citizen engagement:** public advocacy, campaigning and advancing digital approaches to catalysing shifts in citizens' financing behaviour.
- **Public finance:** advancing measures and advocacy linked to stimulus and recovery spending, and the place of nature in sovereign debt markets.
- **Nature markets:** catalysing nature markets by developing new revenue streams and robust governance innovations.

F4B has been established with support from the MAVA Foundation, which has a mission to conserve biodiversity for the benefit of people and nature. F4B's work benefits from partnership with, and support from, the Children's Investment Fund Foundation (CIFF) and the Gordon and Betty Moore Foundation through The Finance Hub.

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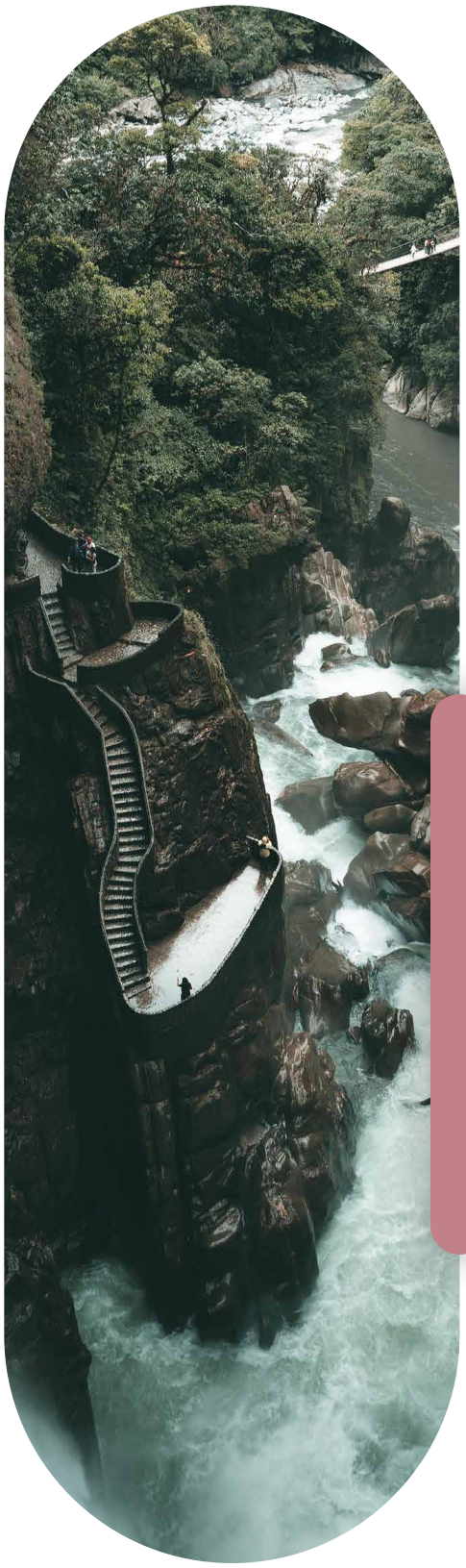
Executive Summary

Financing the transition to a net zero, nature positive global economy requires historically unprecedented investment flows estimated at US$100 trillion by 2050. Much of this will need to flow through the global financial system including sovereign debt markets. Yet the financial system is not currently fit-for-purpose to deliver such financing, causing leading figures in the political and financial world to call for a major overhaul in aligning it with the needed transition.

'Greening Sovereign Debt Performance', the fifth report by Financing for Biodiversity (F4B) on integrating nature into sovereign debt markets, **focuses on the role of natural capital and sovereign debt markets** in the context of a three-part challenge:



1

Despite progress, most **financial actors do not take adequate account of climate risk, and take almost no account of nature-related risks**, resulting in financing patterns that continue to drive nature destruction and global temperature rises.

2

Financial markets are **increasingly disrupted by growing exposure to macroeconomic volatility driven by climate change and nature destruction**, exemplified by the current, pandemic-induced emerging market sovereign debt crisis, reinforcing a vicious cycle of indebtedness and increased costs of capital for those vulnerable countries most in need of investment.

3

The **current economic and political context is unreceptive to the called-for overhaul of global finance**, because of the combined effects of shifting geopolitics, the spill-over from the Great Financial Crisis of 2008, and the effects of the pandemic on indebtedness and broader economic health.

Finance for Biodiversity sets out an approach to advancing a shift in sovereign debt markets with the combined objectives of:

- Explicitly and adequately valuing natural capital in pricing sovereign risks and opportunities; and
- Incentivising and enhancing the sharing of risks and opportunities through the extended use of performance-linked debt instruments. F4B argues that the time is right to advance these developments together given the three-part context challenges outlined above, and the urgent need to finance the transition to a net zero, nature positive world.

Positively, innovations across sovereign debt markets are in practice already advancing this agenda:

- **Sustainability-linked bonds** - connecting agreed outcomes to the cost of capital - are emerging in sovereign as well as corporate debt markets, notably with climate and nature commitments, and are also being applied to education, health, and other social indicators.
- Initiatives are emerging to enable a broader range of **sustainability-linked key performance indicator (KPI) sovereign debt**, including plans for an international sovereign debt platform to facilitate sustainability-linked debt issuance, mainly focused on nature and climate.
- Developments in **debt instruments that help issuers and investors share risk**, such as catastrophe clauses and other disaster-related, insurance-linked approaches.
- **Standards have been created** to meet the needs of this new generation of performance-linked debt instruments, such as the Sustainability-Linked Bond Principles (SLBP) developed by the International Capital Market Association (ICMA).
- **Broader market infrastructure developments** are complementing these market innovations, and supportive initiatives include early work on the integration of nature as well as climate into sovereign ratings and sovereign debt sustainability assessments.

Yet progress remains ad hoc, fragmented, and small scale despite the urgency, opportunities, and growing interest. Performance-based debt instruments are not new but issuers and investors are wary of embracing them due to a mixed historical track record and their perceived complexity. Sovereigns and development finance institutions are welcoming the approach in principle, but, as creditors and sources of concessionary finance for market development, are slow to support it in practice.

Performance-linked sovereign debt encourages a multiplicity of positive outcomes, including:

- Incentivising targeted, performance-based policy action;
- Reducing the cost of capital (if performance is achieved), increasing fiscal space, and increasing availability of public funds to support performance-related actions;
- Enhancing risk sharing, helping to avoid painful debt restructuring; and
- Improving sovereign risk pricing (if performance is highly correlated with solvency conditions and long-term prosperity).

Together, these positive outcomes create a window of opportunity to achieve a double dividend by developing a market for sovereign KPI-linked debt. It allows sovereigns to secure lower debt payments in exchange for sustainable performance, and gives investors a means to buy into the sustainability performance of sovereigns, which are increasingly in demanded by shareholders.

Yet progress has been slow, largely due to concerns about the market appetite for these more complex, risk-sharing instruments, and because they cannot be a substitute for concerted international policy action to support impacted, climate vulnerable countries.

Finance for Biodiversity urges an acceleration of the integration of nature and climate into sovereign debt markets, to both mobilise and build out a shared risk and reward approach to securing much- needed transition financing. Such an acceleration, it is recommended, can be achieved by advancing the following actions:

1

BUILD PERFORMANCE MODELS

A coalition of nature, climate and sovereign debt experts should be established, to develop a broadly applicable KPI framework to use in performance-linked sovereign debt that effectively mobilises and enhances risk-sharing to help meet transition financing needs.

2

ADVANCE MARKET BUILDING

A new facility should be established (or existing platforms should be repurposed) to initiate activities that support primary market issuance and market trading.

3

DEVELOP GUIDANCE

Develop appropriate guidance for performance- linked sovereign debt, drawing on existing practice, and building in ICMA's Sustainability- Linked Bond Principles, validating such developments through engagements with the G20 and other bodies.

4

ALIGN MARKET INFRASTRUCTURE

Accelerate efforts to integrate climate and nature into key market infrastructure, including credit ratings, and financial sector assessment methodologies, working with the IMF and other key international bodies, service providers and platforms.

THE CHALLENGE

NET ZERO, NATURE POSITIVE TRANSITION

US$100 trillion to be invested to drive the transition by 2050

WHAT IS NEEDED

PRICING OF NATURAL CAPITAL

RISK SHARING THROUGH PERFORMANCE INSTRUMENTS

KEY TRENDS

POSITIVE INNOVATIONS

- Sustainability-linked bonds in sovereign and corporate markets
- Emerging work on nature and climate in credit ratings and debt sustainability assessments
- Examples of risk sharing into existing debt instruments (disasters, insurance)
- Initiatives to scale up sustainably-linked debt issuance

BARRIERS

- Lack of proven track record
- Perception of complexity
- Need for standards and robust performance metrics

HOW TO DO IT

- **Build performance models** to develop a set of commonly applicable frameworks
- **Advance market building** through establishment of a new facility or repurposing of existing platform
- **Develop guidance** for performance-linked sovereign debt drawing on exiting best practice
- **Align market infrastructure** by integrating nature into credit ratings and financial sector assessments

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Financing the Transition

The transition to a net zero, nature positive global economy requires the mobilisation of historically unprecedented flows of capital. Global commitments are beginning to set a clear course for the future, with the UN Conference of the Parties (COP26) in Glasgow and COP15 in Kunming on nature and biodiversity providing frameworks to chart the transition.

Now attention has rapidly turned to the challenge of mobilising the resources to meet these targets. The International Energy Agency estimates US$100 trillion needs to be invested to drive the net zero transition to 2050[1], while UNEP estimates that investments in nature-based solutions need to amount to a further US$8 trillion over the same period to meet biodiversity and land degradation targets.[2]

The global financial system is at the heart of allocating capital to fund these investments, with sovereign debt markets a critical piece of this architecture. Governments rely on global financial markets to fund productive investments, with the global sovereign debt market standing at US$88 trillion.[3] These markets are also an increasingly important way for emerging and developing countries to access capital, with issuance in these economies rising from US$1 trillion to US$2.5 trillion between 2000-2019, with issuance markedly increasing to US$3.4 trillion in 2020 owing to the pandemic.[4]

Leading political and financial figures are calling for fundamental changes in the way these markets operate. More than US$300 billion has been invested in fossil fuel exploitation since the beginning of the pandemic, more than global investment in clean energy over the same period.[5] In addition, today's global food system is valued at US$8 trillion annually, yet the World Bank estimates that this system generates more than US$12 trillion in negative externalities each year, principally through nature destruction and climate change.[6]

It is therefore unsurprising that COP26 President and UK Minister of State, Alok Sharma, called in Glasgow for the "building of the foundations of a net zero financial system," echoing the views expressed by many political and financial leaders for a serious overhaul of global finance.[7]

Sovereign debt markets are not effectively serving the interests of issuers and most investors in delivering adequate flows of sustainable financing. This stems from three core problems:

First, most financial decisions do not factor in climate and nature risks, or societal level impacts. Despite the risks posed by climate change and nature destruction being discussed with increased frequency across the financial sector, most investment decisions still do not factor in either physical or transition risks.

This is particularly true in sovereign debt markets, where an analysis of US$783 billion worth of sovereign bond prospectuses issued in 2020 maturing in 30, 50 and 100 years found that three-quarters did not disclose any climate- or nature-relate risks.[8] In addition, most investment decisions remain agnostic about wider societal impacts, whether that is the amount of carbon emitted into the atmosphere or habitat degradation.

Second, climate and nature risks can lead to macroeconomic risks and volatility, raising the probability of sovereign debt default, particularly in emerging markets. COVID-19 highlighted the fragility of sovereign debt markets caused by macroeconomic shocks. In 2020, US$443 billion of government debt went into default, an increase of 48 percent from the previous year, driven by the inability of Argentina, Belize, Ecuador and Suriname to meet debt repayments.[9]

Work by the World Bank has now advanced explorations of macroeconomic scenarios involving both climate change and the destruction of natural capital. In these scenarios, economies in highly indebted areas of Sub-Saharan Africa and South Asia are predicted to be most at risk of adverse macroeconomic performance.[10] As discussed in Box 1, these risks are now becoming visible in the creditworthiness of sovereigns globally.

BOX 1
Climate change is predicted to adversely affect the creditworthiness of many nations

A growing body of research shows that costs of capital for countries is driven by their climate vulnerability.

> Research by the International Monetary Fund (IMF) shows that climate vulnerability is already negatively impacting sovereign credit ratings, particularly in countries where the cost of capital is already high. Across emerging markets and developing countries, a 10 percentage point increase in climate change vulnerability increases the cost of capital by 1.5 percentage points. Importantly, a 10 percentage point improvement in climate resilience reduces sovereign bond spreads by 0.4 percentage points.

> Work by leading experts also shows climate-induced sovereign credit downgrades would be expected as soon as 2030, with impacts growing with future global warming. Under high emissions scenarios, up to 63 sovereigns are predicted to experience climate-induced downgrades by 2030.

Sources: Cevik, S. and Jalles, JT. This Changes Everything: Climate Shocks and Sovereign Bonds, IMF Working Paper. Working Paper No. 20/79. June 2020. Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness. Klusak, P., Agarwala, M. Burke, M. Kraemer, M. and Mohammes, K. Bennett Institute Working Paper. March 2021.

Third, political and economic inertia have not eased existing pressures on sovereign indebtedness, creating a potential cycle of rising repayments and solvency risk. While efforts from the G20 have temporarily relieved pressure by postponing debt repayments in many developing nations, permanent reforms to make these markets more resilient and provide access to low cost capital have not been established.[11] The UN Development Programme points out that debt burdens have already begun to increase again after the pandemic due to slow revenue development and growth.[12] The IMF now projects that debt service due in 2021-25 is more than twice the pre-crisis average (2010-19),[13] at a time when investment in the future is needed to fully recover from the pandemic and build resilience to future macroeconomic shocks.

Low-income countries will need to deploy an extra US$450 billion annually for the next five years to invest out of the pandemic

IMF, 2021

These three problems collectively exacerbate a vicious cycle that amplifies macroeconomic risks and volatility across sovereign debt markets. In effect, this could mean vulnerable countries pay twice, first through the physical impact on their economies and communities, and second through the increased cost of capital to fund much-needed investments to secure necessary resilience and economic development.

If sovereign debt markets (and the issuers and investors they serve) do not find the solutions to address these issues, it will not only threaten undermine a just transition. It also risks increasing the fragility of sovereign debt markets at large by misallocating large amounts of capital to inefficient, unproductive and unsustainable use.

2

Towards greener and more effective debt markets

Sovereign debt markets can break the cycle of indebtedness and low capital mobilisation by properly accounting for nature and climate risks and opportunities. First, by explicitly pricing natural capital into financial decisions, markets would begin to allocate capital towards investments aligned with a lower risk, low carbon, nature positive transition. Second, by supporting the proliferation and scaling of performance-based debt instruments, financial markets would provide options to share these risks and opportunities more effectively between issuers and their investors.

BOX 2
Natural capital: The source of all wealth, but a mostly overlooked asset

The World Bank's Changing Wealth of Nations Report provides a comprehensive assessment of the state of global wealth between 1995 and 2018, including measurement of natural capital. The report shows that total wealth grew for most nations, but that the state of natural capital is less rosy. In particular:

- Forest wealth fell by 8% in low- and middle-income countries;
- The value of global fish stocks fell by 83% due to overfishing and poor stock management; and
- The value of non-renewable natural assets, including fossil fuels, is predicted to fall by US$4.4 trillion between 2018 and 2050.

A crucial insight of the report is that natural capital becomes more valuable as countries develop. While the share of natural capital declines as a share of total wealth as income increases, the value of natural capital is greatest per capita in highest income nations.

Pricing natural capital into debt markets

Natural capital is the stock of nature that allows human life to be sustained and prosper. This stock is essential for providing valuable goods including timber, food and minerals, as well as life sustaining services such as clean air and fresh water. Estimates by the World Economic Forum (WEF) suggest that at least half of global gross domestic product (GDP) is highly or moderately dependent on nature.[14]

Investment in natural capital is central to economic prosperity at all stages of economic development, but is particularly pivotal in economies reliant on nature- dependent sectors. For instance, nature-based tourism alone contributes between 10-20% of GDP to the economies of Kenya and Namibia[15], while economies dependent on large agricultural sectors, such as Ethiopia and Pakistan, depend on soil productivity which drives 95% of global agriculture.

The lack of adequate pricing of nature capital misdirects finance away from productive and resilient investments. The consideration of natural capital remains ad hoc across sovereign debt markets, which risks underinvestment in productive assets that help drive future economic prosperity. This also risks misdirecting investments into sectors that are increasingly exposed to sources of nature and climate risk. The lack of consideration of natural capital in sovereign debt markets is exemplified by credit rating methodologies that fail to explicitly incorporate climate- or nature- related risks, or the opportunities from investments in resilience.

Pricing natural capital more explicitly would help sovereign debt markets assess both the risks and opportunities of the nature and climate transition. Tools are needed now to ensure investors in sovereign debt markets have the information to assess how these risks impact macroeconomic outcomes and public sector balance sheets.

This would in turn allow them to price in the likelihood of downside events, and calculate the necessary premium required to fund ever riskier investments. Crucially, it would also mean that positive efforts to increase resilience, or to exploit new opportunities from nascent carbon and nature markets, could be reflected in a lower cost of capital.

Facilitating risk sharing

Today's sovereign debt markets do not contain effective mechanisms for sharing risks and opportunities between issuers and investors. Despite issuers, and most investors, preferring investment behaviour that fosters sustainable growth and reduced volatility, nature- and climate-aligned investments made by issuers are not rewarded.

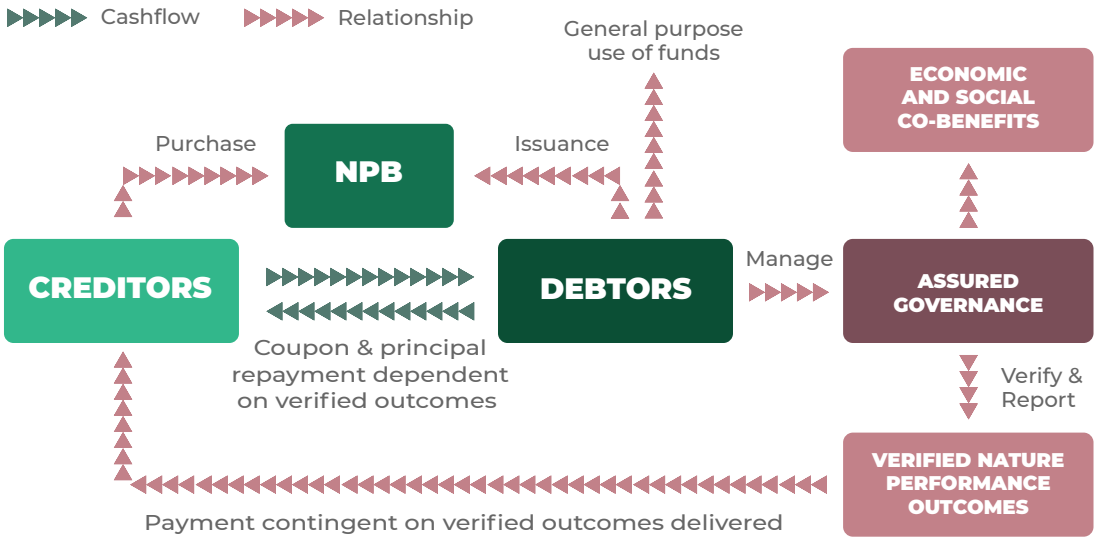
This is despite increased demand from many investors and their shareholders to pursue green investment strategies. For issuers, this means positive action to improve resilience, and natural capital does not yield a lower cost of capital. For investors, there are limited options to account for the increased macroeconomic risks, due to issuers failing to meet their climate or nature commitments.

KPI-linked or sustainability-linked sovereign bonds connect agreed outcomes to the cost of capital, and also create a way for issuers and investors to share risks more effectively. These bonds are designed so that the achievement of an agreed performance outcome, such as a net zero commitment or a large-scale nature restoration programme, reduces the cost of capital. This means that the issuer is incentivised to meet the performance commitment, and will benefit financially if met. The issuer would subsequently receive a lower return if the performance commitment were met. The key structural features of these instruments in shown in Box 3.

BOX 3
How a sustainability-linked bond connects nature and climate outcomes to sovereign debt repayment terms

Incentivises targeted performance-based policy action: The instrument incentivises performance towards nature or climate outcomes by providing a reduction in the coupon in exchange for meeting targets, or potentially even incorporating a discount in the principal of the bond value. KPI bonds link costs of capital more directly to outcomes rather than to specified projects.

Reduces the cost of capital (if performance is achieved), increasing fiscal space, and increasing availability of public funds to support performance-related actions: Unlike 'use of proceeds' instruments that currently dominate sustainable debt markets, KPI-linked bonds allow for general purpose use of funds. On issuance, the issuer receives the full value of funds, which can be used to fund immediate fiscal needs or capital spending, while simultaneously incentivising meeting environmental targets.



Enhances ex-ante risk sharing, helping to avoid ex-post debt restructuring: Investors agree to receive a lower interest payment in exchange for an agreed level of performance, creating a mechanism for investors to reward sovereigns, and for sovereigns to lower overall debt repayments.

Improves sovereign risk pricing (if performance is highly correlated with solvency conditions and long-term prosperity): These instruments can help drive performance that lowers the risk of default and improves sovereign creditworthiness if performance

KPIs that correlate with reduced the risk of sovereign default due to reductions in harmful activities or defensive actions would be rewarded more in markets where investors wish to reduce exposure to sovereign default. Some investors would have an interest in KPIs that demonstrate the effective provision of global or local public goods. For instance, institutional investors wishing to align portfolios with a net zero transition would likely be supportive of a lower cost of capital in exchange for significant emissions reductions. Likewise, public or private investors under shareholder pressure to support increased afforestation would be willing to support instruments that incentivise these outcomes.

3

The seeds of change in global debt markets

BOX 4
What are key performance indicators?

Key performance indicators (frequently shortened to 'KPIs') refer to quantifiable metrics that measure the performance of a particular entity, such as a company or a country. In debt markets, KPIs typically monitor outcomes that are desirable or of particular interest to investors. The Environmental Finance Bond Database has created 18 categories of KPIs based on existing issuance of sustainability-linked debt by corporates. These include KPIs which are aimed at (but not limited to) tracking progress in the following areas:

- Water
- Sustainable sourcing
- Healthcare
- Gender
- Education
- Circular economy
- Renewable energy
- Carbon/GHG emissions
- Biodiversity and conservation

Source: Environmental Finance Bond Database

Positively, innovations across sovereign debt markets already provide pathways to incentivise investment behaviour aligned with the global finance challenge. Historically, sovereign debt markets have adapted to a range of global economic, technological and socioeconomic challenges linked to macroeconomic risk and volatility, including inflation and natural disasters.[16]

Now the scale of climate- and nature-related risks is spurring innovation in new financial products and approaches that account for, and manage, these sources of sovereign risk. This section summarises these key trends.

While a KPI-linked sovereign debt market is in its infancy, it is being driven by a transition to incorporate nature and climate pricing considerations. There are now a growing number of high-profile transactions under discussion, and the launch of the first sovereign sustainability-linked bond is expected shortly (see Box 5). In addition, nature and climate performance outcomes are being increasingly discussed as key components for more traditional debt-for-nature and climate swaps in the context of pandemic-driven volatility across emerging markets. A report by the Organisation for Economic Cooperation and Development (OCED) in October 2021 places sustainability-linked bonds as one of the most promising financing methods for supporting the sustainable development goals.[17] A summary of the most recent developments is shown in Box 5.

The potential for this market to develop is being driven by the rapid development of the corporate sustainability-linked bond market. In April 2021, the corporate KPI-linked market totalled US$27.9 billion from 49 bonds issued.[18] Total issuance in 2021 is expected to reach US$60 billion.[19]

Momentum has been catalysed by the publication of the Sustainability-Linked Bond Principles (SLBP) by ICMA in June 2020, creating an inflection point for issuer and investor appetite.[20] The growth in the market has revealed strong demand from issuers for these products owing o the 'general use of proceeds' structure which does not tie use of proceeds to green projects. It also allows for raising funds linked to ambitious performance targets rather than a set of projects.

The global market for sustainable debt now totals over US$3 trillion.
BloombergNEF, 2021

This market is being supported by early-stage initiatives to catalyse the development of a sovereign KPI bond market and to drive parallel developments in international policy and markets. Central to this is the work underway to establish the World Bank/IMF Platform on Debt, Nature and Climate, an international facility to facilitate sustainable development-linked finance mechanisms and trading, mainly focused on nature and climate. This platform builds on proposals set out by the F4B-convened Working Group on Debt and Nature to establish a Nature and Climate Sovereign Bond Facility.[21]

BOX 5
The race towards the first sovereign sustainability-linked bond

Debt instruments tied to key performance indicators (KPIs) are now being discussed with increasing frequency, both in the context of new issuance and as a tool to restructure sovereign debt payments in exchange for performance commitments. Key examples of this trend are:

- In February 2022 Chile published its planned sovereign sustainability-linked bond framework and set out plans to become the first sovereign issuer
- Uruguay aims be a first issuer of a sovereign sustainability-linked bond and is chairing a committee of the World Bank and IMF to increase future scalability of this market, both for private investors and for multilateral lending.
- In September 2021, Belize stuck a deal with private creditors to restructure its debt in exchange for allocating significant funds to ocean conservation measures.
- South Africa has put forward a proposal for a performance-based debt mechanism for its national power company in order to meet decarbonisation targets and to transition away from coal.
- IIED and Bankers Without Boundaries are supporting Cabo Verde, Guinea-Bissau, Mauritania and Senegal in West Africa to support results-based, key performance indicators of positive nature and climate outcomes.

Several early efforts have been made to set suitable KPIs for benchmarking performance. The scoping of data and approaches to set credible, robust and transparent KPIs is critical to the development of this market. Notably, the World Bank published work in January 2022 assessing existing datasets available to assign KPIs for use in sovereign sustainability-linked bonds (SLBs) aligned with sustainability objectives.[22]

This builds on earlier work by the International Institute for Environment and Development.[23] An overview of this work is shown in Box 6 below. Groups such as the Science Based Targets Network (SBTN) highlight the potential for developing metrics linked to credible targets, and metrics are now being adapted to cover nature and biodiversity targets.[24]

Standards have been created to meet the needs of this new generation of performance-linked debt instruments, such as the Sustainability-Linked Bond Principles (SLBP) developed by the International Capital Market Association (ICMA). The growth of the green bond market highlighted the clear role of standards in creating simple, commonly accepted instruments adaptable across different contexts. Now there are prospects for complementary guidance developed for sovereign issuers and investors.

The publication of the ICMA principles followed shortly after the issuance of the first corporate SLB, and their publication has allowed subsequent issuances to move towards a harmonised framework more quickly. Similar guidelines have also been applied to other markets, most recently the release of the Sustainability-linked Derivatives: KPI Guidelines.[25]

BOX 6
Guidance for assessing the suitability of sovereign KPIs is available and leading indicators have been screened for applicability

Work published by the World Bank in January 2022 aims to "provide initial guidance on what a framework for assessing the suitability of KPIs might look like, including whether a potential indicator is sufficiently robust, properly interpreted, aligned with the country context, and credibly ambitious." The work builds on existing standards from the ICMA Sustainability-Linked Bond Principles (SLBP) but focuses on the emergent demand from issuers and investors in the sovereign space.

The report proposes criteria to screen the robustness of KPIs based on their underlying data and how performance targets can be set. These criteria are set out in the table below.

Indicator criteria	Target setting criteria
Available	Alignment with internationally agreed goals
Attributable	Eligibility criteria
Frequent/recent	Benchmarking with comparable countries
Regular	Baseline targets
Comparable across countries	Planetary boundaries

The report also sets out a longlist of potential sovereign KPIs that are available based on existing data, available from credible third parties. These include KPIs linked to energy (e.g. % share of renewable energy, PM2.5 air pollution), climate (e.g. total greenhouse gas emissions), and biodiversity and natural capital (proportion of fish stocks within biologically sustainable levels, forest area).

The report recommends a phased approach that moves from initial pilot studies, building up capacity within governments, investor communities and data providers, culminating in eventual formalisation and standardisation.

Markets for KPI debt instruments have previously emerged to facilitate risk sharing in sovereign debt markets in the face of macroeconomic volatility. Most notably, and of greatest volume, are inflation-linked bonds, which underwent significant growth in the UK, the US, and other advanced economies. The establishment and sustained growth of this market was due to the monetary policy imperative of lowering inflation, as well as containing inflation volatility over the medium term.[26]

A more recent innovation is the development of the Natural Disaster Clause, first seen in Granada, and most recently in Barbados in 2018 and 2019, whereby payments are reduced when the 'state is bad', allowing downside risks to be shared between issuers and investors.[27] Recently a first ever sovereign debt "catastrophe wrapper' was added to Belize's Blue Bond in the event of hurricane events.

More broadly, core pieces of market architecture are beginning to factor in the risks from climate change but still lag behind on nature- related risks. Credit rating agencies are beginning to build the macroeconomic consequences of climate change risks into rating models, but, as discussed in Box 7, work to incorporate nature and biodiversity lags behind.

Additionally, the IMF is currently working on an enhancement of its Debt Sustainability Analysis (DSA) framework to explicitly include the repercussions of climate change on debt sustainability, building on work to incorporate climate change in the IMF/World Bank Financial Sector Assessment Programme (FSAP).[28] Yet DSAs currently do not consider biodiversity and nature-related risks in a comprehensive way. F4B is currently working with partners to lay out the case, and proposed methodology, for building nature as well as climate into sovereign debt sustainability assessments.

Despite promising signals and wide interest in emerging opportunities, developments remain isolated, slow moving, and uncoordinated. This is a missed opportunity given that a diverse group of issuers and investors are now actively taking greater responsibility for nature and climate outcomes.

The establishment of the Taskforce on Nature-related Financial Disclosures (TNFD) demonstrates how the collective effort to increase nature-related disclosure can be achieved and generate wide support and interest. The next section summarises the key barriers that need to be overcome in the next generation of sovereign debt markets to meet the needs of the financial sector and the stakeholders it serves.

BOX 7
Work is beginning to examine the consequences of incorporating nature in credit ratings methodologies

Existing ratings methodologies do not explicitly incorporate nature-related risks. The methodologies published and applied by leading credit ratings agencies largely focus on governance, economic, external, monetary, and fiscal factors, but do not explicitly incorporate biodiversity and nature- related risks in a comprehensive way.

A common excuse for excluding biodiversity and nature-related risks from financial risk assessments is that scientific uncertainty is too high or data do not exist. Yet the macroeconomic implications of the physical and transition risks from nature degradation are now increasingly understood, and data are widely available, so these risks can be incorporated into sovereign credit ratings methodologies. Current assessments of sovereign creditworthiness have not yet caught up with this new trend. To integrate biodiversity- and nature-related risks into forward-looking sovereign ratings, F4B is working with researchers at the University of Cambridge and SOAS University of London to extend the credit ratings models to incorporate nature. This work will be published in early 2022.

4

Barriers

Several barriers inhibit widespread adoption of approaches to price nature and climate into debt markets; these barriers also stall the proliferation of performance-based instruments. Although several sovereigns and public development banks are embracing the approach in principle, this has not been matched by a readily available supply of creditors or sources of concessionary finance to effectively develop the market.

Issuers and investors have also been unwilling to embrace a new generation of performance-linked debt because of a mixed historical track record and a perception that these instruments add complexity to transactions. These barriers are discussed below.

Lack of established performance metrics and methods verification

Many investors and issuers are unfamiliar with nature and climate metrics that affect sovereign risk pricing and KPIs. Investor demand for data is high, and nature and climate performance metrics should be as robust as other forms of data used across finance to achieve market acceptance. The additional challenge of unfamiliarity with metrics related to nature and climate is compounded by the additional complexity of understanding how biophysical risks interact with core macroeconomic variables that drive solvency risk. Despite this, technology is now quickly emerging to provide capabilities for market participants, with initiatives including the Future of Sustainable Data Alliance drawing together major data providers and global practitioners with the objective of serving as a forum to harmonise and promote common standards and best practices.[29]

Accurate, transparent, fast, and low-cost measurement, reporting and verification (MRV) systems are required to build trust from both issuers and investors. Linked to the selection of appropriate KPIs, is the availability of MRV systems so that investors can price performance and build credibility across the market. MRV requirements will be more involved for KPI bonds than for green bonds given the need for ongoing, regular assessments to incentivise ongoing performance.

Innovative bond structures take time to develop best practices

Investors and issuers have highlighted that several features of KPI bonds make these instruments more complex than 'vanilla' bond instruments. These considerations include the structure of the coupon payment, uncertain investment returns, and issues with liquidity.

The variable coupon structure can pose difficulties for some investors and issuers due to disagreement over the best performance payment model. Investors have shown a preference for a coupon 'step up' if performance commitments are not met because this guarantees a baseline level of return.[30] This means that issuers pay more if targets are not met. This structure has emerged as the dominant one in corporate debt markets.[31]

Discussions with sovereign issuers has, however, signalled a preference for the opposite structure, typically viewing the 'step up' model as less of a carrot and more of a stick to meet performance targets. Further market research of sovereigns and their investors is required to explore alternative options in greater depth.

Models that blend capital from public and private investors are emerging but are so far untested. Suggestions to blend financial support so that public investors, such as bilateral donors or philanthropic funds, pay for the performance aspects of KPI bonds because of international policy mandates are being actively discussed.[32]

A leading option would be the establishment of a two-tier bond structure where private investors enter on 'vanilla' terms so that they are not subject to coupon variation, and public investors are responsible for paying for the performance component of the coupon.[33]

Market liquidity and value for money for investors has not been demonstrated

KPI bonds may be perceived as having lower liquidity than vanilla bonds until the market matures. Liquidity in the market is a function of size and the capacity of investment banks to facilitate trade. Liquidity would mean these bonds are easier to trade, de-risking the transaction for both issuer and investor.

Actions by the European Central Bank (ECB) offer the potential to catalyse the market further towards greater standardisation and liquidity. In September 2020, the ECB formally accepted KPI-linked bonds as eligible for their asset purchasing programme.[34] Over time, spreads would be expected to narrow as liquidity improves, but in the short-term this creates opportunities for investment banks to earn profits through a wider spread until issuances and investment funds increase in the space.

Value for money of these instruments has not yet been validated although there is significant scope to demonstrate value. Investor mandates, particularly in the public sector, commonly stipulate that investments should deliver greater value for money than other means of funding, such as direct grants.

There are several reasons to expect why - from a public investment perspective - supporting sustainable outcomes delivers as good value for money as through traditional means. First, support for this market at an early stage will support public good outcomes while also catalysing the development of a potentially large market for nature and climate. Second, KPI bonds have strong performance incentives built in – investors only pay for achieved performance. Comparable grant funding of outcomes would require funders to set up costly monitoring programmes and review these annually to ensure compliance.

Adverse consequences for vulnerable countries

KPI bonds could increase exposure to nature- and climate-related macroeconomic risk for some sovereigns, increasing macroeconomic volatility and the cost of capital. For instance, if country is hit by a natural disaster like an earthquake, efforts to improve nature performance could temporarily deteriorate as economic pressures increase ecological pressures. In this case, KPI debt instruments would increase required debt payments precisely at a time when fiscal vulnerability is high. To alleviate this, one option is adding an extra insurance component to a KPI bond, to reduce the amount of downside risk in the event of a catastrophe. These clauses may be bespoke or part of larger initiatives such as the climate disaster debt clauses being explored in the G7.

The cost of capital could increase significantly where climate change cannot be adapted to or where nature destruction has already hit a tipping point. Although performance-linked sovereign debt is one way to enhance ex-ante risk sharing, and to help avoid ex-post debt restructuring in the context of climate and other sources of economic crisis, it cannot be a substitute for concerted international policy action to support impacted, climate vulnerable countries.

5

The way forward

Establishing approaches to market development at speed and scale could overcome the barriers that currently exist in sovereign debt markets. Previous examples of innovations in debt markets point to the potential for sovereign sustainability-linked bonds to achieve scale. These include innovations in comparable corporate debt issuance and successful secondary markets, the embrace of innovations by sovereign creditors and a new generation of impact investors, and innovative issuance by developed sovereign debtors.

But to overcome initial inertia, many of the major stakeholders would need to be well-informed, and, in the early stages, incentivised to act by a set of well-targeted and coordinated initiatives.

To advance this in an effective way, four areas should be worked on:

1

Build performance models

A coalition of nature, climate and sovereign debt experts should be established to develop a broadly applicable KPI framework to use in performance-linked sovereign debt, that effectively serves one or both of the aims of mobilising and enhancing risk-sharing in meeting transition financing needs. To achieve this, the coalition would need to:

Review and evaluate best practices for performance-based models, incorporating learning from parallel corporate debt markets and international policy initiatives such as REDD+.

Review current and emerging work on the metrics and KPIs required to track national policy commitments, in line with net zero and nature positive strategies.

Create data collection and processing capacity to create a database of credible and robust KPIs that could be used by the financial sector to track performance.

Develop transparent, credible, and low-cost models for measurement, reporting and verification to reduce transaction costs for issuers and investors.

2

Advance market building

A new facility should be established, or existing platforms should be repurposed, to initiate activities that support market building and subsequent issuance at scale, providing technical expertise and concessionary finance where required.

Such a facility could be coordinated by international organisations, including the World Bank and IMF, alongside regional development banks. The facility could also establish capacity building programmes to enable debt management offices, finance ministries and environmental ministries to coordinate and develop expertise. F4B previously outlined the case for a similar facility, which would deliver the following functions:

- **Coordinate the integration of nature into debt markets** with international financial organisations, and promote developments with sovereigns, investors, and market actors such as credit rating agencies.
- **Manage performance assessment** by developing nature and climate metrics and standards, and support this with monitoring, reporting and verification to oversee performance outcomes, linked to national commitments on nature and climate.
- **Leverage the balance sheets of many public and private financial institutions** to mobilise 'green-linked' concessional and blended financing from diverse sources e.g. development finance institutions.
- **Promote standardisation of nature and climate performance outcomes** through systematic data collection, analysis, and reporting protocols, drawing on existing green and sustainable bond initiatives and standards.
- **Promote institutional knowledge sharing and capacity building**, including enhancing coordination across governments and the financial sector.

3

Develop Guidance

A key building block will be to develop appropriate guidance for performance-linked sovereign debt, drawing on existing practice. A leading option would be to build on ICMA's Sustainability-Linked Bond Principles, and work to further validate such developments through engagements with the G20 and other bodies.

Guidance should be developed to be adaptable to different contexts but provide a common approach to increase transparency and reduce information costs. For instance, establishing guidance to cover a small number of core KPIs may be a way to efficiently catalyse the market in its early stages.

A central lesson, however, from the development of the green bond market is that encouraging standardisation at the level of certification may be more effective for the market to reach scale. This is because the market will require a degree of customisation, which may be put at risk by premature standardisation at the KPI level.

4

Align Market Infrastructure

Accelerated efforts are needed to integrate climate and nature into key market infrastructure. These include:

- **Credit ratings agencies** to conduct reviews of the role that nature and climate currently play in sovereign credit ratings methodologies, and assess ways in which these can be robustly incorporated.
- **Financial sector assessment methodologies** are reviewed by working with the IMF and other key international bodies, service providers and platforms. This would include explicit consideration of nature and climate in all debt sustainability assessments.

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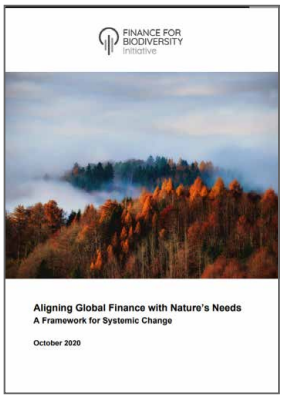

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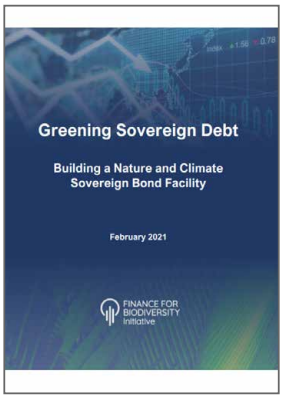

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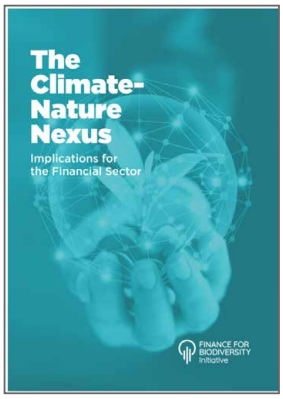

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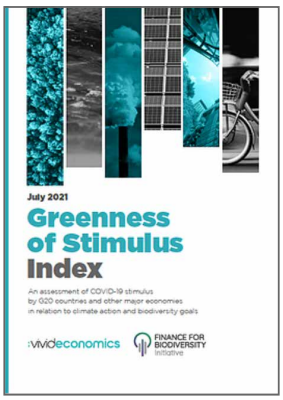

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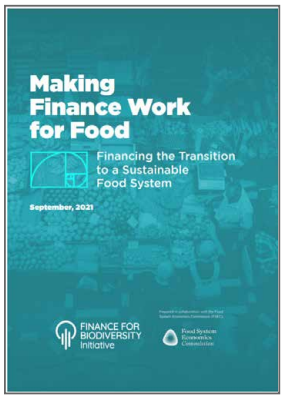

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