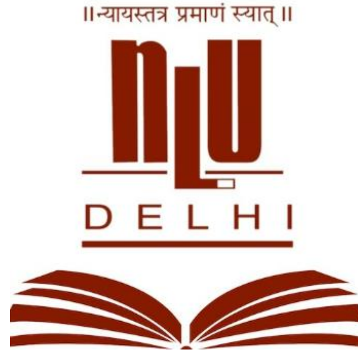

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THE SOVEREIGN CLIMATE MANDATE: OVERRIDING CONTRACTUAL ABSOLUTISM IN INTERNATIONAL DEBT RESTRUCTURING

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DECLARATION

I hereby confirm that this paper is an original work and has not been previously published in any form.

ABSTRACT

As the speed and intensity of climate-related disasters grow, the traditional models of sovereign debt restructuring, i.e. Paris club and London club are fundamentally incapable of handling these risks. The small island developing states (SIDS) and the developing countries are in the vicious cycle of excessive debt services and highly vulnerable to the climate. This paper discusses the importance of the fact now, more than ever, the construction of a multilateral legal framework incorporating the elements of climate into the official sovereign insolvency procedure is crucial. Rightly though, the UNCITRAL Model law on cross border insolvency is a detailed framework of integrating corporate insolvency in cross border situations, but there is no analogous system here to ensure a climate adaptation budget during a sovereign default. This paper focuses on the option of contractual clauses of *pari passu* and emerging compulsory reporting on environmental, social, and corporate governance (ESG), and concludes by saying that such a dilemma reveals the underlying incoherency in the global financial structure.

A three-tiered legal remedy is proposed in this paper: *firstly*, the Priority Pivot: i.e., redefinition of climate adaptation expenditure as 'super-priority' claims; and *secondly*, Standardized CRDCs, that is, the development of a global template on Climate-Resilient Debt Clauses in order to provide automatic stays on the service of debt occasioned by certified climate events; and *lastly*, an Institutional Reform to promote a UNCITRAL-type Model Law of Sovereign Climate-Disaster Defaults so as to organize cross-border claims against creditors and to avoid systemic paralysis due to holdout litigation.

This paper provides a clear roadmap to a Green Insolvency regime that reconciles balancing the recovery of finances and the objectives of the 2030 Sustainable Development Goals (SDG) through the adherence to provisions of the international insolvency law, sovereign finance and environmental economics. Finally, this paper does not stay within the ethical appeals of the environment. It applies the common insolvency rationale to demonstrate that the sole course of action that can be taken for ensuring creditor recovery is by actually maintaining the debtor. This paper speaks *the language of money to solve the problem of nature*.

Keywords: *Priority Pivot, CRDCs, Sovereign Debt, Green Insolvency, Doctrine of Necessity.*

LIST OF ABBREVIATIONS

Abbreviation	Full Form
ARSIWA	Draft Articles on Responsibility of States for Internationally Wrongful Acts
BIT	Bilateral Investment Treaty
CAC	Collective Action Clause
COMI	Centre of Main Interests
COP	Conference of the Parties
CRDC	Climate-Resilient Debt Clause
CSRD	Corporate Sustainability Reporting Directive
DIP	Debtor-in-Possession
DFNS	Debt-for-Nature Swaps
DSSI	Debt Service Suspension Initiative
EBRD	European Bank for Reconstruction and Development
ESG	Environmental, Social, and Corporate Governance
ESRS	European Sustainability Reporting Standards
EU	European Union
GAR	Green Asset Ratio
GDP	Gross Domestic Product
IBC	Insolvency and Bankruptcy Code (India)
IBRD	International Bank for Reconstruction and Development

ICMA	International Capital Market Association
ICSID	International Centre for Settlement of Investment Disputes
IDB	Inter-American Development Bank
ILC	International Law Commission
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
MDB	Multilateral Development Bank
MLCBI	Model Law on Cross-Border Insolvency
NPV	Net Present Value
PSWG	Private Sector Working Group
SB	Senate Bill (California)
SCDML	Sovereign Climate-Disaster Model Law
SDG	Sustainable Development Goals
SEEA EA	System of Environmental-Economic Accounting- Ecosystem Accounting
SFDR	Sustainable Finance Disclosure Regulation
SIDS	Small Island Developing States
TCFD	Task Force on Climate-Related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
UKEF	United Kingdom Export Finance
UNCITRAL	United Nations Commission on International Trade Law
US / USA	United States of America

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INTRODUCTION

The relationship between environmental degradation and financial stability is no longer a matter of academic conjecture; but is becoming a structural phenomenon of the modern global economy. Since time immemorial, underestimation of nature has been a part of the conventional economic systems. World is however changing to realize a profound interdependence: the health of the world financial system is, on a global scale, is dependent upon the physical integrity of the ecosystem on the earth. The 'nature versus finance' debate is one of the most popular debates of the modern era that of which the insolvency law is best placed to give an answer to since the real problem behind the debate is to safeguard value, to coordinate creditors, and to keep the going-concern businesses alive, is better placed to address.

In 2021, before it could even find a way to cope with the economic repercussions of the Covid-19 pandemic, Barbados was awfully struck by Hurricane Elsa.[1] When a small island developing state is struck by a Category 5 hurricane, it does not merely cause destruction of the physical infrastructure, but it causes a disaster of mathematical formulas used in debt repayment schemes of whole countries, which thus causes a sovereign default. However, the interest was still piling up since the hurricane had no opportunity to halt the contract clock. So, when Barbados was looking to the catastrophe unfolding overhead, its lenders were looking down at the stopwatch. This was the consequence of a principle that exists in the current international financial architecture: *contractual absolutism*, i.e., the strict obligation of fulfilment of the duty of debt by the debtor even in the event of such a disaster, which is grounded on the common law doctrine that the parties are obliged to observe the promises of a contract even in unforeseen circumstances.

The current world system of finance is still in this part of the contractual absolutism because the strict and stern interpretation of the pari passu clauses tends to override a sovereign state in its core duty of providing safety of its citizens against disasters. The law as it is today is like a desperate nation as though it were a failed business enterprise, but the difference is that a business enterprise does not have people to house, a nature to preserve and a climate to protect.

[1] Climate Policy Initiative, 'Climate-Resilient Debt Clauses: A Primer for FiCS Members' (Finance in Common Summit, February 2025) 3–5 https://financeincommon.org/sites/default/files/2025-03/Climate-Resilient-Debt-Clauses-Primer.pdf accessed February 2026 ('CPI Primer').

Natural disasters like hurricanes, earthquakes and other related events have innumerable consequences to the fiscal status and viability of the debt of a state. The obstacles of efficient reaction to such events deter the development process and climate objectives and in the worst-case scenario, results in debt distress. It is even truer to those regions, which are continuously impacted by natural calamities and climate sensitive states such as the SIDS, but it also extends to the vulnerable emerging and developing economies in the broader sense.

The most vivid illustration of this systemic pathology is *NML Capital, Ltd v Republic of Argentina*,[2] in which the court ruled, and the United States Supreme Court declined to hear an appeal against this order (*certiorari denied*), that Argentina could not give full payment to its good creditors (those who had accepted a restructuring) without also fully paying the holdout creditor (NML Capital). It is the antithesis of a cram-down under the insolvency law because it caused the recovery of the majority to be blocked by a minority, and as such, caused systemic paralysis of the insolvency process in the state. The case shows that the bargaining power of only one holdout creditor through only one contractual clause can govern the recovery of an entire country and that is a warning to the world on the risks that the current structure carries.

The creditors should not be treated pari passu, particularly where the outcome available could be the ruin of the debtor country which is precisely what Barbados avoided due to its creative application of the provisions of the climate. Logically the meaning of a corporate clause with equal rank is only possible in the situation in which the sovereign is continuing to exist but the climate and the natural environment upon which the state is dependent must then take precedence over such boilerplate terms of a contract.

The insolvency laws remain rooted in the 20th century frameworks and the crisis and assets that the laws should be applied on are twenty-first deep-seated. The concept of a 2026 global landscape is infused with a two-level of challenge to the insolvency sector: the insolvency sector needs a new green reset in the sovereign debt, and a new generation of new asset classes are now forming, challenging the traditional jurisdiction boundaries. Climate change is not a catastrophe per se, but it is simply a reconsideration of the world property.

[2] 727 F 3d 230 (2d Cir 2013), *certiorari* denied 134 S Ct 2819 (2014).

In insolvency of corporations, the 'going-concern' principle provides that administrative expenses, which are necessary to the corporate existence of the debtor, take absolute precedence over all other claims.[3] The Priority Pivot advocated in this paper in the sovereign context is the following: climate survival spending must be defined as a mandatory administrative expense of the State, which may be incurred any time the necessity arises. Such a recommendation is grounded on a teleological reasoning: should the sovereign actor fail to discharge its actions and obligations to the climatic disaster, the value of the going-concern of the nation is lost, and all the future contractual obligations as well as credit recoveries become inadmissible. Therefore, a sustainable debt restructuring is not only an option of the policy but a fiduciary duty to have climate resilience.

The argument in this paper is that saving the country will ultimately result in saving the creditor. The creditor will find himself able to reclaim little or nothing at all when the country is ruined, and able to reclaim his loan in due course when the country is restored. Therefore, when a climate disaster takes place, the duty of a country to defend its citizens and physical infrastructure must be put at a higher priority than the application of a creditor contractual right. This demands a new international law system; a system in which the survival is automatic rather than the debt.

The paper suggests a solution based on a tripartite approach: *First*, by appealing to Doctrine of Necessity to offer a public international legal basis of suspension of payment in specified climate emergencies; *Second*, by offering a moratorium by use of Standardised Climate-resilient Debt Clauses (CRDCs) in order to contractualise the moratorium by pre-determined, parametrically triggered payment deferrals; *Third*, by proposing an Institutional Reform by an UNCITRAL-style Model Law on Sovereign Climate- Disaster Defaults, supplemented by a neutral Arbitral Bridge for climate-related valuation disputes.

The paper has built a multilateral framework by integrating these pillars such that the rights of the creditor, and the maintenance of the planet have been weighed against each other, and thus using language of money to fix the problem of nature.

[3] Douglas G Baird, *Elements of Bankruptcy* (6th edn, Foundation Press 2014) 161–175.

CHAPTER I: THE 'PRIORITY PIVOT'

I.1 The Nation as a 'Going-Concern'

A sovereign state is not just a piece of land with a flag denoted to its existence. It is, in fact, a permanent organisation that exists in perpetuity and must conduct itself accordingly. It is thus a *juridical personality*, i.e., it has the capacity to be able to enter into contracts, to own property, and above all has a duty to remain 'alive', to ensure its own continued existence,[4] including when it is threatened by a climate change.

A state's identity is not defined merely by the existing government. Governments are temporal and a state is eternal. A country is like an unbroken chain, i.e., leaders are just trustees who possess the keys of the government in their hands at a certain point of time.[5] Their primary duty is to ensure that the nation does not collapse for the next generation, i.e., the intergenerational link remains intact. By neglecting to attend to the effects of climate change, they intervene in the State chain. Such a trusteeship is gaining prominence in the international environmental law.

Essentially, a sovereign state is an economic engine, which creates safety, working positions, and social services, and the conditions of human well-being. Such an engine needs fuel (natural resources and fiscal revenue) and maintenance (infrastructure, environmental protection and institutional capacity). If the engine is not maintained, i.e. the after effects of a climate disaster are ignored, the engine will ultimately fail and no creditor will be able to collect the debts because the engine is not functioning anymore. The state has an obligation of fiduciary duty to ensure that this engine survives. This implies that the state does not have a primary responsibility to cater to personal needs of the investors in the short run but to see that the economic engine on which all

[4] See International Law Commission, Draft Articles on Responsibility of States for Internationally Wrongful Acts (2001) UN Doc A/56/10 ('ARSIWA'), arts 1–2; cf James Crawford, *The International Law Commission's Articles on State Responsibility: Introduction, Text and Commentaries* (CUP 2002) ch 1.

[5] The concept of intergenerational trusteeship is reflected in modern international environmental law and the principle of sustainable development: see *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)* (Judgment) [1997] ICJ Rep 7, Separate Opinion of Vice-President Weeramantry (discussing intergenerational equity as a general principle of law).

their future needs will be dependent on is kept afloat and solvent.[6] Environmental protection is simply a maintenance factor to make sure that the nation stays in a business.

Under the corporate insolvency, the 'going-concern' principle acknowledges that that the value of a business under liquidation is lower than the one of a going concern and that the maintenance of the value is beneficial to all investors in the business including creditors. [7] This is recognised in the UNCITRAL Legislative Guide on Insolvency Law, which emphasized that the purpose of a reorganisation proceeding must be the value of the assets and business of the debtor surviving to serve as a going concern.[8] The same logic applies, *a fortiori*, to the sovereign, i.e., the capacity of a nation to generate a source of economic output, tax revenue, and human welfare in the long-run is the sole basis under which the recovery of creditors may ultimately be possible. Just like any company, the country should be treated as a going concern; i.e., steps that should be implemented to assist in avoiding its collapse should be given utmost priority.

I.2 Survival-First Accounting: Climate Spending as an Administrative Expense

This argument must move away out of the abstract diplomacy into the confronting reality of accounting. The administrative expenses, in the law of insolvency and bankruptcy, are the non-negotiable expenses which are necessary to run the estate of the debtor: security, utilities, essential maintenance, and must be fulfilled before any other claim can be made, since, in the absence of such expenses, the estate is lost and the creditor recoveries become insolvent.[9]

Under the US law, section 503(b) and section 507(a) (2) of the Bankruptcy Code provides that administrative expenses, which are defined as actual, necessary costs and expenses of maintaining the estate, have priority over the pre-petition claims.[10] The equivalent principle of 'Interim Finance' exists under the sections 5(15) and 28(1)(a) of Indian Insolvency and Bankruptcy Code 2016 which denotes priority to costs essential for maintaining the corporate debtor as a going concern during the insolvency resolution process.[11] Similarly, the UK's Insolvency Act 1986, as

[6] On fiduciary duties in the sovereign context, cf the ILC Commentary to art 25 of the ARSIWA, which recognises that the 'essential interests' of the State include the welfare of its people: ILC, Commentary to art 25 (2001) para 15.
[7] Baird (n 4) 65–82; UNCITRAL, *Legislative Guide on Insolvency Law* (2004) pt II, ch II, para 5.
[8] UNCITRAL, *Legislative Guide on Insolvency Law* (2004) pt II, ch V, paras 94–96.
[9] Baird (n 4) 161–175.
[10] 11 USC §§ 503(b), 507(a)(2).
[11] Insolvency and Bankruptcy Code 2016 (India), ss 5(15), 28(1)(a).

amended by the Corporate Insolvency and Governance Act 2020, provides for the priority of moratorium debts and pre-moratorium debts that have become payable during the moratorium period.[12] Thus, all three systems evidently recognize the core foundational principle, that is to preserve the entity as a going-concern is more important than the immediate repayment of a mere legacy debt.

The most crucial administrative expense of a climate-exposed sovereign is the climate survival spending. When the coastline of the state is washed away, the agricultural systems are rendered useless, infrastructure is destroyed by the abrupt weather conditions, the locomotive of the state, the very factory, which prepares the revenues on which the debts are paid, turns into a closing down machine, and then at such a moment, there is no climate resilience spending as a 'discretionary' social action or charitable contribution to spend in supporting against sea walls, drought-proofing, grid hardening, and disaster preparedness. It is the minimum expenditure necessary to have the state functioning to operate as an economic entity.[13]

Like a factory manager has to correct a faulty foundation and only then can he afford to pay a shareholder a dividend, a sovereign must meet its biophysical requirements, and only then can it afford to pay the secondary debt. Anything to the contrary will be to give up the present to compensate the past, and to guarantee that the future will not yield anything.

The UNCITRAL Legislative Guide on Insolvency Law cites the fact that the order of priority of administrative expenses is founded on the principle of post-commencement financing as being vital to the success of the reorganization and that the insolvency estate and all creditors will be benefited by financing that will enable the debtor to remain in operation.[14] The same principle, applied to the situation of sovereign, justifies the fact that the order of priority of the administrative expenses is based on the principle of post-commencement financing as the key to the success of the reorganization and the insolvency estate and all creditors will be served by the financing that will keep the debtor in operation.

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[12] Insolvency Act 1986, Sch A1, para 12 (as inserted by the Corporate Insolvency and Governance Act 2020, s 1).
[13] This characterisation is consistent with the IPCC's assessment that adaptation investment must increase substantially in climate-vulnerable developing countries: see IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability-Summary for Policymakers* (CUP 2022).
[14] UNCITRAL, *Legislative Guide on Insolvency Law* (2004) pt II, ch V, paras 94–96.

I.3 Reclassifying Resilience as Super-Priority Debt

The paper proposes a solution to the global climate-debt trap, which is discussed in the following section: the *Priority Pivot*: the legal reconstruction of climate resilience spending as super-priority debt. This is a significant rule of modern insolvency law, including the United States and elsewhere around the world, by which a financing that is necessary to keep the debtor entity alive, is accorded a super-priority (or seniority status) under the insolvency law in existence.[15]

Debtor-in-Possession (DIP) financing may be granted a super-priority under Chapter 11 of the US Bankruptcy Act as section 364(c) of the Bankruptcy Act whenever it is necessary to maintain the estate.[16] This is the cardinal principle of survival-first funding in the modern law of insolvency internationally, which is reflected as Interim Finance in India; in the United States, as DIP Financing super-priority; and in the United Kingdom, such financing is the priority of moratorium debts.[17]

The Priority Pivot simply applies this same logic to the sovereign context. It places climate expenditure at the top of hierarchy of debt and creates a new fiscal responsibility in climate-affected states. The model rests on three propositions:

The Fiduciary Prerequisite: i.e., not only is protecting the environment a policy decision, but it is the fiduciary requirement of a sound and solvent government. A sovereign who is incurring foreign debt even during the time the state territory itself is becoming inhabitable, is not practicing fiscal prudence, but his acts are tantamount to dereliction of the fiduciary duty to the state and its citizens.[18]

Ending Resource Misallocation: i.e., sending billions of dollars to some offshore capitalists while their own domestic infrastructure disintegrates in the wrath of weather is a catastrophic squandering of sovereign resources. It is similar to the business world wherein the business pays credit card bill when their facilities are literally on fire. Even IMF Debt Sustainability Analysis

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[15] Baird (n 4) 172–175.
[16] 11 USC § 364(c).
[17] In India, Insolvency and Bankruptcy Code 2016, ss 5(15), 28(1)(a) ('Interim Finance'); in the United States, 11 USC §§ 364(c)–(d) ('DIP Financing'); in the United Kingdom, Insolvency Act 1986, Sch A1, para 12, and Corporate Insolvency and Governance Act 2020, s 1 ('Priority of Moratorium Debts').
[18] cf the fiduciary obligations discussed in Ch I, s I.1 above.

framework acknowledges that government expenditure on resilient infrastructure is an aspect that can determine long term debt sustainability.[19]

Economic Self-Destruction Avoidance, i.e., adhering to the priority pivot in the event of an ecological disaster should be followed, as failing to do so will ruin the entire tax base of the state. The ability to pay off the debt will be completely killed by the point they become due. The adaptation expenditure on climate is thus not merely a barrier to recovery by creditors, but it is its condition.[20]

This paper, to summarize, highlights the modification of the model to the Priority Pivot form of the traditional debt structure model. Where the traditional model considers the cost of climate spending discretionary, regardless of the situation, accords bondholders super-priority, defines success as payment of interest in a timely manner, and neglects climate resilience as economic self-destruction, the Priority Pivot frameworks considers climate spending as a paramount administrative expense, provides climate survival super-priority, defines success as the keeping the nation alive and describes the failure to do so as self-destruction.

I.4 Addressing the Counterarguments: Moral Hazard, Creditor Confidence, and Abuse

A climate-linked proposal in any legislative bill must be subjected to three legitimate objections. The effectiveness of the Priority Pivot framework is in the fact that they address these issues, rather than disregard them.

Moral hazard: When sovereigns have the ability to invoke climate emergencies to suspend debt service, do they have an incentive to create or inflate crises? The structurally parallel issue relating to the matter is that the objectively verifiable independently measured data- wind speed thresholds, seismic data, modelled economic losses as estimated by independent agencies- on which the parametric trigger mechanisms in the CRDCs (discussed in Chapter III) are pegged, are not pegged on self-declaration by the sovereign.[21] Moreover, the likelihood of abuse is restricted by the time-

[19] International Monetary Fund, 'Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework for Low-Income Countries' (IMF Policy Paper, February 2018).
[20] See generally Nicholas Stern, *The Economics of Climate Change: The Stern Review* (CUP 2007) ch 6.
[21] See Ch III, s III.3 below (Parametric Trigger Mechanism).

bound character of any suspension of debt services (one or two years (depending on the CRDC model) and two years with an option to be renewed after implementing the proposed SCDML[22]).

Creditor confidence and the chilling effect on sovereign lending: Does the Priority Pivot prevent future lending to climate vulnerable countries? The dynamic offered by the empirical evidence is the contrary. The introduction of CRDCs in the issues of the bonds of Grenada and Barbados did not occasion any observable increase in the credit spread to widen when compared to other similar peers that did not include the components.[23] On one hand, this is analogized by the fact that the idea of the Collective Action Clause (CAC) has been hard fought in the past and was overwhelmingly opposed on the general ground that such instruments would reduce the certainty of the contract and raise the cost of capital, but today CACs are a feature of about 91% of emerging market sovereign bond issues, and 96% of frontier market issues. It has been demonstrated that well-structured and pre-planned crisis management frameworks are both beneficial and not detrimental of investor confidence (as they lead less often to anarchic, value-destroying crises that are damaging to all the creditors).

Risk of abuse: Non-climate disasters masquerading as climate disasters: Can a sovereign in the midst of financial problems that are not connected to climatic conditions employ Priority Pivot framework to escape reasonable engagements? The SCDML in Chapter VI covers these through several safeguards: by demanding that the qualifying climate events must be independently certified by the entities based on the parametric data; by establishing a limit to the term of stay (two years, renewable once); by stating that a deferral is effectively a fiscal space that must be occupied by a Sovereign Reconstruction Plan with representatives of the creditors sitting.[24] These mechanisms are needed to make the framework a focused tool of real-life emergencies in climate, rather than a blanket tool to escape sovereign responsibilities.

[22] Sovereign Climate-Disaster Model Law, a *proposal* of this paper.
[23] International Capital Market Association (ICMA), Private Sector Working Group, 'Climate Resilient Debt Clauses: Chair's Summary' (November 2022) 6 https://www.icmagroup.org/assets/Chairs-Summary-UK-Chaired-Private-Sector-Working-Group-Sub-Group-on-CRDCs.pdf accessed February 2026 ('ICMA Chair's Summary').
[24] See Ch VI, s VI.3 below.

CHAPTER II: CONTRACTUAL ABSOLUTISM IN PRACTICE AND THE HOLDOUT DILEMMA

II.1 Vulture Funds and Distressed Sovereign Debt

A 'vulture fund' is a hedge fund or private equity vehicle which buys sovereign debt at highly discounted prices, usually during or after a debt crisis, and then enforces the full face value of the original obligation through litigation plus accrued interest.[25] The business model of a vulture fund rests on the exploitation of a particular structural defect in international law, since there is no formal sovereign insolvency regime, that is, no tribunal with authority to impose a binding restructuring on all debt holders, analogous to a bankruptcy court on the corporate side of the business, the holdout creditors can, at any point of time, reject negotiated settlement and litigate to seek full recovery by enforcing its full face value, in creditor-friendly jurisdictions, most commonly New York and London, where the law governing most sovereign bonds is located.[26]

In a strict legal sense, the vulture fund model is not illegal. The creditor purchases a legitimate claim in a contract and carries it out through the law. Nevertheless, the ramifications of the model on the sovereign debt restructuring are catastrophic, the example below shows it. It creates a perverse incentive scheme where the hold-out scheme is individually rational but collectively disastrous.

II.2 The Facts: Argentina's Default and the Holdout Strategy

In 2001, Argentina defaulted on approximately USD 80 billion of sovereign debt, the then largest sovereign default in history, by issuing exchange bonds (new bonds) to its creditors in 2005and 2010, and got approximately 30 cents for every USD its original bonds were worth before the default. About 93% of creditors accepted the exchange, and estimated on the basis that they would be better off now without 30% of something instead of waiting forever to receive 100% of something which might never be recovered. These creditors chose to cancel their old contracts and enter into new contracts under restructured terms.

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[25] Lee C Buchheit and Mitu Gulati, 'Sovereign Debt Restructuring and the "Holdout" Creditor Problem' (2002) 4 University of Pennsylvania Journal of International Economic Law 483, 484–487.

[26] See Anne Krueger, 'A New Approach to Sovereign Debt Restructuring' (IMF 2002) 5–8 www.imf.org/external/pubs/ft/exrp/sdrm/eng/sdrm.pdf accessed February 2026.

But a small group of holdout creditors, led by NML Capital (a subsidiary of Elliott Management) rejected the exchange. The crucial point here is that NML Capital did not, in the first place, lend the amount to Argentina, but had waited until Argentina was in distress and the bonds were being sold at a fraction of their face value. Then they purchased the so-called worthless bonds at a fraction of the nominal value of the face value, and then brought an action in the United States District Court of the Southern District of New York, to recover the full-face value of the original bonds, as well as late-accruing interest, a claim worth an estimated USD 1.33 billion at last.

In order to endure the situation and pressure of such holdouts, Argentina enacted laws known as the Lock Law (Ley Cerrojo), which legally allowed the government to not pay when it could no longer afford to pay any of its creditors who had not participated in the exchange.

Legal case of NML Capital[27] was premised on other structural peculiarities of the original documentation on bonds: *First*, the exchange was a voluntary 'take it or leave it' offer. The 93% creditors who were in accord, had resolved to surrender their initial contracts and to sign new ones. But NML Capital had not executed the new deal, and therefore, its initial agreement was legally enforceable, and that agreement said that Argentina owed 100 cents on the dollar. *Second*, and most importantly, original bonds of Argentina lacked a Collective Action Clause (CAC).[28] The ownership of the old bonds in Argentina not having a CAC was disappointing because, owing to such absence of the clause, even though 99% of the lenders were open to accept a reduction, the other 1% still had legal right to recover the entire penny of whatever they had initially contracted to claim. The restructured terms were not subjected to imposition with some form of a majority rule structure.

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[27] *NML Capital, Ltd v Republic of Argentina*, 727 F 3d 230, 236 (2d Cir 2013) ('*NML Capital*').

[28] On Collective Action Clauses generally, see ICMA Chair's Summary (n 24) fn 7; International Monetary Fund, 'Sovereign Debt Restructuring- Recent Developments and Implications for the Fund's Legal and Policy Framework' (IMF Policy Paper, April 2013) www.imf.org/external/np/pp/eng/2013/042613.pdf , accessed February 2026 ('IMF 2013 Policy Paper'). In India, the equivalent mechanism is known as the 'cram-down' approach.

II.3 The Judicial Reasoning: *Pari Passu* as a Weapon

The main legal weapon relied upon by the holdouts was the pari passu[29] provision in the original bond commitment in 1994, which provided that the obligation of the holdouts on those bonds would be at least equal in priority to the rest of the unsecured external indebtedness.[30]

The United States Court of Appeals for the Second Circuit,[31] the primary judicial body in international finance and sovereign debt litigation, because of the New York City as a financial center of the world, made two decisive judgments in *NML Capital Ltd v Republic of Argentina.*[32] *Firstly*, the court established that Argentina had violated the pari passu clause and the reasoning behind this was that the court critically interpreted the clause to mean not that the obligations just ought to be ranked equally (the traditional and more conservative interpretation), but an 'equal treatment in payment'. The Lock Law and the payment of exchange bondholders and refusal to pay the holdouts had subordinated the debt of the holdouts to that of the exchange bondholders, and so Argentina had violated the equal treatment requirement. *Secondly*, the court affirmed the order of a ratable payment injunction by the trial judge (Hon Thomas P Griesa).[33] This injunction prevented any interest payments to be made by Argentina to the 93% of creditors who had accepted the restructuring, unless Argentina also paid the holdouts (NML Capital) the full USD 1.33 billion it owed to them at the same time.[34]

To the financial community, this injunction was a *nuclear* option because it targeted the payment system itself. The injunction was also extended to third-party financial intermediaries, such as New York banks on which Argentina made its payments; thus, in case Argentina attempted to make payments to its restructured bondholders through a New York bank, without simultaneously paying NML Capital, the bank would directly be in contempt of a United States court order. The United

[29] *Latin* for 'with equal step'.
[30] *NML Capital* (n 29) 238.
[31] The United States Court of Appeals for the Second Circuit is a federal appellate court with jurisdiction over the districts of New York, Connecticut, and Vermont. Because New York City is a global financial hub, the Second Circuit is the primary judicial authority on international finance and sovereign debt litigation.
[32] *NML Capital* (n 29).
[33] Honorable Thomas P Griesa was the presiding District Court judge whose interpretation of the *pari passu* clause and subsequent 'ratable payment' injunctions effectively forced Argentina into a technical default in 2014. His rulings were upheld by the Second Circuit and became the catalyst for the 2016 settlement.
[34] *NML Capital* (n 29) 247–251; affirming *NML Capital, Ltd v Republic of Argentina*, 2012 WL 5895786 (SDNY, 21 November 2012) (Griesa J).

States Supreme Court declined to hear Argentina's appeal, effectively confirming the Second Circuit's interpretation.[35]

That is how a broad interpretation of the pari passu provision by the court allowed a vulture fund to hold the recovery of the whole country hostage. Such interpretation made future restructurings of the debt heavily susceptible, as any creditor holding out could invoke the same provision to reclaim any payout to cooperating creditors.

II.4 The Aftermath: Technical Default and Settlement

Argentina declined to abide by the injunction. The outcome was a paradox which revealed the absurdity of the existing framwork: the country had the financial means to discharge its reorganized debt to the 93% of those creditors who had cooperated in the exercise, but it could not do so due to a court order protecting a holdout. This created a technical default in the year 2014, not a default caused by insolvency but one caused by a court order.[36]

The dispute was resolved only in 2016 when the Argentinian government itself was changed. The then President Mauricio Macri, accepted to pay the holdout creditors approximately USD 4.65 billion and the American courts removed the injunctions.[37] The nuclear decision by the court had put the country in technical default, at a time when it could meet its cooperating creditors.

The deeper question which the court had to answer based on facts and the final decision was, does survival of a country and its people come first before a hedge fund wants to reclaim its claim wholly? It was an act of balancing the pendulum towards the hedge fund; i.e., the financial right overrode the common good.

II.5 Structural Lessons and the International Response

The saga of NML Capital demonstrated a fundamental structural flaw in the international sovereign debt structure: the absence of a coordinating mechanism that can operate to oblige holdout creditors to accept a restructuring approved by a majority was absent. This role is meant to be fulfilled by the cram-down mechanism, which permits a court to impose a plan of reorganisation

[35] *Republic of Argentina v NML Capital, Ltd*, 134 S Ct 2819 (2014) (*certiorari* denied).
[36] See IMF 2013 Policy Paper (n 34); Buchheit and Gulati (n 27) 498–502.
[37] The settlement amount of USD 4.65 billion represented a return vastly disproportionate to NML Capital's original investment in discounted Argentine bonds.

on the dissenting creditors subject to some statutory conditions being satisfied.[38] No such similar process does exists in sovereign debt law.

The worldwide response to the collapse of NML Capital was significant. The United Nations General Assembly adopted Resolution 68/304 in 2014 establishing an ad hoc committee to develop a multilateral legal framework of restructuring processes, with respect to sovereign debt.[39] Such processes are, however, non-binding. Resolution 69/319 in 2015 adopted nine basic principles in such processes including sovereignty, good faith, transparency, impartiality, equitable treatment, sovereign immunity, legitimacy, sustainability, and majority restructuring, which were directly inspired by the Argentina saga,[40] i.e. the current framework contains a systemic failure requiring structural reform.

This case is a warning precedent and an efficient argument for the institutional structure proposed in Chapter VI. The pari passu clause, that at first was merely a typical boilerplate clause aimed at giving similar precedence to unsecured creditors, had been employed as a weapon to wipe out the re-organization of an entire country. It turned out to be the *villain* in this story. When it takes a single contractual clause to cripplize the recovery of an entire nation, Priority Pivot, which ensures the climate survival budget the legal precedence of such provisions, becomes not only a good principle, but a necessary one.

[38] 11 USC § 1129(b) (United States); Insolvency and Bankruptcy Code 2016 (India), s 30(4); see also Baird (n 4) 232–245.
[39] UN General Assembly, Res 68/304, 'Towards the establishment of a multilateral legal framework for sovereign debt restructuring processes' (9 September 2014).
[40] UN General Assembly, Res 69/319, 'Basic Principles on Sovereign Debt Restructuring Processes' (10 September 2015).

CHAPTER III: THE SHIELD- CRDC AND SOVEREIGN INSOLVENCY

III.1 The Problem of Sovereign Illiquidity in a Climate-Disrupted World

The old principle concerning the sovereign debt law was founded on the implicit assumption that the failure of a debtor to service the debt has its root in some economic inefficiency or political instability or structural weaknesses of the economy. This assumption is the foundation of architecture of sovereign debt restructuring as it now appears, i.e., an ad hoc, creditor-negotiated process, which lacks the formal discharge mechanisms, automatic stay and court-monitored orderly workouts that corporate debtors receive under domestic insolvency regimes.[41]

Climate change is proving to be a weakness to this assumption. In SIDS and other economies vulnerable to climate, such failure to pay cannot be an endogenous fiscal failure, but a discrete externally imposed, and more frequently exogenous shock: a natural calamity. An extended drought, a Category 4 hurricane, or even an event of a coastal flood, over a matter of days, can cause a large share of the GDP of a country, collapses tax revenues and triggers emergency expenditure that leaves it impossible to pay a national debt, not due to some malfunction of the governmental mechanism, but due to physical facts of climatic variability.[42]

The traditional solution, of emergency lending at exorbitant rates, bilateral renegotiation, or de facto arrears, is just the value-destroying, anarchic processes that the insolvency law was designed to replace within the business context. Against this backdrop, the Climate-Resilient Debt Clause (CRDC) is a tool that deserves attention as a tool of analysis.

III.2 The Caribbean Precedent: Grenada, Barbados, and the Origins of the CRDC

The CRDC tradition is followed in the path of recurring history of the Caribbean of establishing the preconditions of the distress of debt as a result of disaster. In furtherance of this, Grenada course is particularly informative. Following Hurricane Ivan in 2004 which caused a damage estimated at approximate 200% of GDP,[43] and the resulting damage of Hurricane Emily in 2005,

[41] Buchheit and Gulati (n 27); IMF 2013 Policy Paper (n 34).
[42] CPI Primer (n 1) 3–5.
[43] World Bank, 'Grenada: Macro Socio-Economic Assessment of the Damage Caused by Hurricane Ivan' (2004); see also Sebastian Espinosa (White Oak Advisory), quoted in Marc Jones, 'Beryl-Battered Grenada Becomes First to Use

Grenada had to enter into two distinct debt-restructurings within the *same* decade. This experience of serial restructuring in which every episode would come at a cost in the form of negotiation, credits market exclusions, and economic activity disruption on an already wilting economy made the debt advisors of Grenada consider the ex-ante contractual solutions. In 2015, Grenada became the first government to incorporate a natural disaster clause in one of its sovereign bonds, the first government to do so in an international government bond.[44]

Barbados, in the leadership of Prime Minister Mia Mottley and as part of the larger framework of the *Bridgetown Initiative*, a general overhaul of the global financial architecture introduced in 2022 adopted its own version under its domestic restructuring in 2018 and subsequently incorporated a CRDC, and a pandemic-specific version, into a 2022 Eurobond issuance guaranteed by the Inter-American Development Bank and The Nature Conservancy.[45] This issuance received a 'B' rating from Fitch, in line with the sovereign's issuer default rating,[46] thus providing early evidence that CRDC-embedded instruments need not incur a credit rating penalty, a finding with significant implications for broader market adoption.

III.3 The Contractual Mechanism: Architecture of the CRDC

CRDC is a contingent clause to the terms and conditions of a sovereign loan agreement or a bond. It is critical because it provides that the debtor country is suspended on a pre-determined basis to service the principal, and/or interest payments on its obligations in case of a defined triggering event. CRDCs are also used to offer short-term liquidity support in the event of a natural calamity; it might not be long-lasting, however, the repayment halt will enable the beneficiary nation to have breathing space to respond to the disaster, which will provide a gap in which it will not be necessary to make debt service unsustainable. As they are a contractual form, activation of CRDCs does not trigger cross-default clauses, which provide on-going access to external financing.

Government Bond Hurricane Clause' Reuters (London, 19 August 2024) https://finance.yahoo.com/news/beryl-battered-grenada-becomes-first-092216585.html accessed February 2026 ('Jones, Reuters').

[44] Jones, Reuters (n 51); Caribbean Broadcasting Corporation, 'Grenada Triggers Hurricane Clause, Deferring Bondholders' Payments' (20 August 2024) https://www.cbc.bb/news/caribbean-news/grenada-triggers-hurricane-clause-deferring-bondholders-payments accessed February 2026 ('CBC Report').

[45] CPI Primer (n 1) 7; ICMA Chair's Summary (n 24) 4.

[46] CPI Primer (n 1) 9.

The principal structural arrangements, which were reached by the ICMA Private Sector Working Group (PSWG) in term sheeting in November 2022[47] and subsequently with slight amendments by multilateral development banks are:

Parametric Trigger Mechanism: This clause is not triggered by self-proclaimed emergency of the sovereign, which will put the creditors in the moral hazard, but by objectively verifiable, independently measured parametric information. They may be levels of wind velocity of tropical cyclones, Richter magnitude or peak ground acceleration of earthquakes, economic loss amounts, which are modeled above a certain level, or drought indices. The ICMA term sheet specifically encourages triggered by parameters that are either physically supported by measurements or scientifically supported by data.[48] The CRDC framework of the World Bank, expanded in November 2024, now includes all types of natural catastrophes such as floods, droughts, and public health crises due to biological events along with not just tropical cyclones and earthquakes, as it originally did.[49]

Deferral of payment, Not Dismissal: This distinction is crucial according to insolvency-law. The CRDC never rescinds, loses or restructures the sovereign obligations. The sums deferred (principal and interest) are capitalised and paid up during the remaining life of the instrument, either pro-rata during the later dates of payment, or as a lump sum addition to the later date of payment of maturity. The sovereign does not decrease in the duty; it is only the time when he is discharged. The default deferral of both ICMA guidance and World Bank practice is 1-year, but may have a 2-year deferral, with the ICMA term sheet showing one year as the standard deferral and two years as the maximum deferral. A given instrument can have one to three deferrals within a given life period.[50]

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[47] International Capital Market Association (ICMA), Private Sector Working Group, 'Climate Resilient Debt Clauses: Indicative Term Sheet' (9 November 2022), drafted by HM Treasury and Clifford Chance LLP https://www.icmagroup.org/assets/CRDCs-November-2022.pdf accessed February 2026 ('ICMA Term Sheet'); ICMA Chair's Summary (n 24).

[48] ICMA Term Sheet (n 56); ICMA Chair's Summary (n 24) 3–4.

[49] World Bank, 'World Bank Expands Lifeline to Small States Hit by Disasters' (Press Release, 12 November 2024) https://www.worldbank.org/en/news/press-release/2024/11/12/world-bank-expands-lifeline-to-small-states-hit-by-disasters accessed February 2026 ('World Bank Press Release'); World Bank, 'Climate Resilient Debt Clauses (CRDC): Product Note — IBRD Flexible Loan with Variable Spread, Major Terms and Conditions' (Updated 26 November 2024) https://thedocs.worldbank.org/en/doc/f6bf43b93fd7b3fd1a30b4f3853fffe6-0340012021/original/IBRD-Flexible-Loan-IFL-Major-Terms-Product-Note-EN.pdf accessed February 2026 ('World Bank CRDC Product Note').

[50] ICMA Term Sheet (n 56); World Bank CRDC Product Note (n 58).

NPV Neutrality: This clause should be net present value (NPV) neutral on the creditor side. The creditors are not supposed to lose in present value terms during a trigger scenario since the amount the deferral accrues interests in contractual terms and are recovered entirely. It is a design principle to which the analysis of the ICMA PSWG has been attentive and according to which any market premium that might arise as a result of the addition of a CRDC would be small and that could be offset in the event that the instrument was NPV neutral and that investors of the bond market had diversified portfolios of debt-based instruments in which a CRDC was incorporated in them.[51]

It can be observed that official sector lenders, who stand in a better position as a preferred creditor than the individual bondholders, are more easily NPV-neutral than the individual bondholders, who face incremental credit risk if the repayment period were extended, at least in theory, which is the case of 2024 in a detailed analysis by Western Asset Management.[52] This asymmetry remains an active area of market debate.

Non-Default Classification: The deferral is pre-contractual and, thus, the event of deferral taking place is not an event of default, and it is not treated as a cross-event of default or cross-acceleration in other debt instruments. This is precisely in consequence of the great injury to a disaster-stricken sovereign of the possibility that, either by a disaster physical or otherwise, any suspension of the discharge of obligations will produce a domino-effect of cascading defaults on the whole debt, the last thing that the suspension of the discharge of obligations is meant to prevent.[53]

Cost to the Sovereign: The World Bank structure imposes the cost of five basis points per annum on the released and pending balance of loans. More importantly, this charge is not levied on the borrower but is re-compensated by World Bank in other forms such as the utilization of the donor funds in trust funds. The clause is so currently rendered free, then, of any direct incremental cost, to qualified sovereigns.[54]

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[51] ICMA Chair's Summary (n 24) 5–6.

[52] Western Asset Management, 'Enhancing Sovereign Resilience Through Climate Resilient Debt Clauses' (September 2024) https://www.westernasset.com/us/en/research/blog/enhancing-sovereign-resilience-through-climate-resilient-debt-clauses-2024-09-16.cfm accessed February 2026 ('Western Asset Management').

[53] White & Case LLP, 'Climate Resilience as a Proposed New Feature of Sovereign Debt Instruments' (Insight Alert, 2022) https://www.whitecase.com/insight-alert/climate-resilience-proposed-new-feature-sovereign-debt-instruments accessed February 2026 ('White & Case Insight').

[54] World Bank, 'Climate Resilient Debt Clauses (CRDC): Product Note' (2023) https://thedocs.worldbank.org/en/doc/6857abe91ef32973cfab7f689e9f00fe-0340012023/original/CRDC-Product-note-EN.pdf accessed February 2026 ('World Bank Original Product Note').

To a creditor, CRDCs offer better assurances on the repayment than ex-post reprofiling, reduced cost of transactions, and risk of legal action. The one drawback to commercial lenders is that, once rescheduling is found to have been duly pursued by a re-organisation of the sovereign debt, the rescheduled payments would be made under the re-organisation, and the creditors not in possession of CRDCs would have gone on receiving payments in the interim, creating a de-facto junior priority of the rescheduled claims holding CRDCs. It is a risk that will be only put to the test when it becomes practiced, since the implementation of CRDC is so novel, and it will wear out with use as has been the experience with the introduction of CAC through the years.[55]

III.4 The Insolvency Analogy: CRDCs as Contractual Automatic Stays

An approximation of a mechanism which is at the core of formal insolvency law: the automatic stay will be determined by scholars and practitioners in the CRDC. Declaration of a bankruptcy petition under Chapter 11 of the US Bankruptcy Code has the effect of automatically and immediately staying the enforcement of most claims against the debtor to the extent that the petition has been declared.[56] The stay has three functions: to stop the value-destroying creditors race against each other; to protect assets that would otherwise be dissipated in disorganized enforcement efforts; and to provide a breathing space in which a debtor is left free to devise a plan of reorganisation, without incurring the immediate liability burden.[57]

The sovereign situation lacks such a mechanism. It does not have an international insolvency court, an automatic standstill, a formal standstill, a standstill which applies to sovereign borrowers in the event of a catastrophic occasion occurring. CRDC fills this gap on a contractual basis, on a specified form of shock, and to the specific relationship that exist between creditor and borrower over which it is overlaid. Its automatic impact when a parametric trigger occurs corresponds, in contractual terms, to the most significant feature of an automatic stay: the discharge of payment responsibilities is effected by the very existence of the contract and not by renegotiation, court order, or even explicit creditor approval upon the occurrence of the crisis.[58]

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[55] CPI Primer (n 1) 8; cf the parallel trajectory of CAC adoption discussed in ICMA Chair's Summary (n 24) fn 7.
[56] 11 USC § 362.
[57] Baird (n 4) 161–175.
[58] White & Case Insight (n 62).

A central preoccupation of insolvency law is the preference for orderly, rules-governed debt resolution over chaotic, creditor-driven scrambles for asset. This is equivalent to the rationale behind the analysis of CRDCs by White and Case, which, in the mind of an investor, deferral on an organised and reasonably predictable basis reduces the risks of disorderly default and ad hoc restructuring, and saves the time and cost of negotiated restructuring. This is the reasoning that underlies the automatic stay in corporate insolvency: individual creditor enforcement is ruinous to aggregate value, and makes all creditors worse off.

CRDCs are also adjusted to the distinction between temporary illiquidity and fundamental insolvency: the same distinction between a reorganisation and a liquidation of the corporation.[59] By conferring a temporary write-off, and not a permanent write-off, these CRDCs are suited to states that are temporarily illiquid (as opposed to fundamentally insolvent): states that are structurally capable of growth and provision of debt service, but which need a time-out to restore their productive capacity before they resume payments. The NPV-neutrality clause is founded on the reality that, in the absence of the calamity, the borrower will someday be able to make-up in full and the deferral is simply a continuation of such capability to the statement of temporary incapacity to to do so in full.

III.5 Empirical Evidence and Institutional Adoption

A. The Grenada Case: The First Live Trigger

The most established empirical fact in CRDC literature is their triggering of their hurricane clause Grenada experienced in August of 2024 when Hurricane Beryl passed over the northern Caribbean on 1st July 2024 as a Category 4 storm,[60] leaving the island of Carriacou in a state of destruction as estimated by World Bank rapid assessment of USD 219 million or approximately about 16.5% of GDP according to World Bank rapid assessment.[61] Prime Minister Dickon Mitchell described the damage as being comparable to about one-third of the economic output per year, an indication of the magnitude of localised destruction.[62]

[59] IMF 2013 Policy Paper (n 34); Krueger (n 28).
[60] Jones, Reuters (n 51).
[61] CPI Primer (n 1) 6, citing World Bank rapid assessment data.

[62] Jones, Reuters (n 51).

The Grenada ministry of finance notified the bondholders that it had decided to make a deferral claim under the hurricane clause to its USD 112 million international bond that had also had the hurricane clause written since 2015. The parametric trigger of USD 15 million of a modelled economic loss was achieved and was to be greater than USD 30 million. The two future dates of payment (November 2024 and May 2025) were rolled over and the two deferrals of approximately USD 12.5 million was to be recorded correspondingly on the principal payment of the bond till its ultimate maturity in the year 2030.[63]

There are some characteristics of this activation that are of analytical significance. *Firstly*, process was not haphazard and out of order as the announcement of process made by the ministry of finance in Grenada under the consultancy of White Oak advisory and Cleary Gottlieb Steen and Hamilton LLP was not by litigation but without any negotiation and arrears.[64] *Second*, activation did not cause a default event or credit market exclusion. *Thirdly*, the deferreds remained in the balance sheet as a capitalised obligation which is compatible with NPV neutrality. The Grenada experience at the moment was the initial empirical confirmation of the reality that CRDC mechanism is effective as it is in the real world set up.

B. Institutional Adoption: The Approved Account

The following institutional adoptions are supported by primary source documentation:

In November 2024, the World Bank declared that it extended its CRDC to cover all natural disasters (droughts, flood and epidemiological emergencies) besides two categories of disasters which the bank is commonly used to cover (tropical cyclones and earthquakes). CRDC was made available to IBRD and IDA eligibility small state economies, Small States Forum members and SIDS of the United Nations taste. By 2024, 14 of 45 eligible countries had also ratified the clause, and St Vincent and the Grenadines had made the deferral option following Hurricane Beryl.[65] In February 2023, Inter-American Development Bank (IDB), began adding an option of a principal

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[63] CBC Report (n 52).

[64] *ibid* (confirming White Oak Advisory as financial advisor and Cleary Gottlieb Steen & Hamilton LLP as legal advisor); NordSip, 'Grenada Defers Bond Payments Due to Hurricane Beryl' (30 August 2024) https://nordsip.com/2024/08/30/grenada-defers-bond-payments-due-to-hurricane-beryl accessed February 2026.

[65] World Bank Press Release (n 58); Jamaica Observer, 'World Bank Expands Lifeline to Caribbean Countries Hit by Disasters' (Kingston, 14 November 2024) https://www.jamaicaobserver.com/2024/11/14/world-bank-expands-lifeline-caribbean-countries-hit-disasters accessed February 2026.

payment which refers to CRDC guidelines to a loan contract.[66] In COP28, European Bank for Reconstruction and Development (EBRD) declared that it would offer CRDCs on new sovereign loans, sovereign-guaranteed loans and municipal loans agreements with clients in lower-middle-income countries around mid-2024 in addition to floods, droughts and earthquakes that will qualify as a declaration of state of emergency.[67]

In December 2023, the African Development Bank Group stated that in 2024 it would start using CRDCs in sovereign lending with the African Development Fund and CRDCs[68] as the first initiative. UK Export finance (UKEF) has introduced CRDCs of which its policy took effect in April 2023, and which signed or signed near signing CRDC-bearing lending agreements with eight borrower countries as of early 2025. In 2024, Japan had initiated a pilot CRDC sovereign lending programme to Pacific Island Countries. A call for action was issued in the Paris Summit on a New Global Financing Pact (2023) by 73 countries for the introduction of CRDCs by bilateral, multilateral, and private-sector creditors by the end of 2025. In order to bring a standard contractual term that would be used by the market in the private sector, the ICMA released its standardised term sheet in November 2022, by the PSWG, under the chairmanship of the UK Treasury. In March 2024, a CRDC Technical Working Group, consisting of representatives of the G7 Treasuries, MDBs, debt management offices at borrowers and technical experts, was launched under the secretariat of the Sustainable Sovereign Debt Hub, with Clifford Chance providing legal assistance to it.[69]

III.6 The record of verification had a list of restrictions

Academic rigour pertains to open-minded acknowledgment in which the gaps exist that yet remain to be occupied by evidence. CRDCs have scarcely been put into practice by the private sector: against all expectations, the 2022 Barbados Eurobond stands out as the only example of CRDCs-

[66] Western Asset Management (n 61).
[67] Ashurst LLP, 'Adapting to Climate Change: Innovative Tools in Development and Climate Finance' (Insight, 2025) https://www.ashurst.com/en/insights/adapting-to-climate-change-innovative-tools-in-development-and-climate-finance accessed February 2026.
[68] African Development Bank Group, 'COP28: African Development Bank, International Partners Commit to Climate Resilient Debt Clauses' (Press Release, December 2023) https://www.afdb.org/en/news-and-events/press-releases/cop28-african-development-bank-international-partners-commit-climate-resilient-debt-clauses accessed February 2026; CPI Primer (n 1) 11.
[69] Sustainable Sovereign Debt Hub, 'Climate Resilient Debt Clauses' (Working Group Page, 2025) https://www.ssdh.net/climate-resilient-debt-clauses accessed February 2026.

inclusion in a market-issued bond instrument to date.[70] The aspiration expressed at the 2023 Paris Summit, that private creditors would end up adopting CRDCs broadly by end-2025, has not been verified.

Another issue that still remains is that deferred amounts would be the object of any restructuring in the future, and could also cause seniority issues with those creditors whose status was not deferred by the operation, is the structure of event triggering, at any rate where event triggers are not of hurricane nature (where parametric data are less standardized).[71] While NPV neutrality can be applied in connection with the official sector lenders with the preference of credit, it is a bit more complex with the private bondholders, the analysis performed by the Western Asset Management elaborates on it.[72]

These restrictions are material in terms of any contemplation of the present extent of the instrument and its longer-term sustainability, yet do not undermine the importance of CRDCs as a contractual innovation in which the logic of it is fully compatible with the principles of the insolvency law.

[70] CPI Primer (n 1) 10.
[71] ICMA Chair's Summary (n 24) 8.
[72] Western Asset Management (n 61).

CHAPTER IV: THE LEGAL FOUNDATION- THE DOCTRINE OF NECESSITY AS THE SOVEREIGN'S CLIMATE SHIELD

IV.1 From Abstract Ethics to Hard Law

Chapters I, II, and III have established the economic justification of the Priority Pivot (Chapter I), the destructive qualities of contractual absolutism under *NML Capital v. Argentina* (Chapter II), and the viability of CRDCs as contractual automatic stays (Chapter III). However, there is a deeper issue to be questioned: does the popular international law ever accord any legality to the suspension of debt service by a post-climate-ravaged country, without the benefit of a previous agreed CRDC (which, in the case, all the climate-exposed states must adopt)?

This chapter argues that it does, under the Doctrine of Necessity which exists in the Article 25 of the Draft Articles on responsibility of states to internationally wrongful acts (ARSIWA) by the International Law Commission (ILC).[73] But more importantly, this chapter introduces a new solution, and that is: climate change is not the phenomenon that occurs once in a while and generates the necessity that is tackled on the episodic scale, but a prolonged condition of growing threat, which demands the new mode of conceptualizing the doctrine itself.

IV.2 The Doctrine Structure and Requirements

The necessity doctrine has reasonable justification under the traditional international law where the International Court of Justice (ICJ) has applied it in the case of *Gabcikovo-Nagymaros* Project (Hungary/Slovakia) as one of the grounds that are recognised by the customary international law to exclude the wrongfulness of an an act that fails to comply with an international obligation.[74] Article 25 of the ARSIWA that is commonly accepted to have enshrined the customary international law on the same, [75] articulates that a necessity may be invoked where:

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[73] ARSIWA (n 5), art 25.

[74] *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)* (Judgment) [1997] ICJ Rep 7, para 51 ('*Gabčíkovo-Nagymaros*').

[75] *Total SA v Argentine Republic*, ICSID Case No ARB/04/1, Decision on Liability (27 December 2010), para 221 ('Article 25 of the ILC Articles on State Responsibility is generally considered as having codified customary international law'); see also Federica Paddeu and Michael Waibel, 'Necessity 20 Years On: The Limits of Article 25' (2022) 37 ICSID Review — Foreign Investment Law Journal 78 ('Paddeu and Waibel').

(a) the act in itself will authorize the State to secure an indispensable interest against a grave and imminent threat; and

(b) This is not a situation in which the act acts seriously to hinder one of the vital interests of the State or States in which is due the duty, or of international community as a whole.[76]

Moreover, necessity must not be invoked in cases where: (i) the international obligation in question does not allow any possibility of invoking necessity; or (ii) the State has contributed to the necessity situation.[77]

IV.3 The Doctrine in Action

A. 'Essential Interest': The Physical Survival of the State

The ILC Commentary makes it clear that the term 'essential interest' does not concern the very existence of the State, but also particular interests of the State and its people.[78] In *LG&E Energy Corp v. Argentine Republic*, the ICSID Tribunal determined that the interests, which Argentina had required, were threatened in the year 2001 during its economic crisis in which the crisis had led to a situation where the central bank of Argentina had lost 40% of its reserves within a single quarter, unemployment rate had hit 25% and the stock exchange market of the country had lost 60% of its value.[79] More importantly, the LG&E Tribunal took a more liberal approach than *CMS Gas Transmission Co v. Argentine Republic*, which had dismissed the necessity defence of Argentina based on the same facts.[80] The LG&E Tribunal also did not hold Argentina liable throughout 17 months during which it was able to prove that the country was in a true state of necessity.[81]

[76] ARSIWA (n 5), art 25(1).
[77] ibid art 25(2).
[78] ILC, Commentary to art 25 (2001) para 15; see generally Crawford (n 5) 178–186.
[79] *LG&E Energy Corp, LG&E Capital Corp and LG&E International Inc v Argentine Republic*, ICSID Case No ARB/02/1, Decision on Liability (3 October 2006) ('*LG&E*'), paras 231–237.
[80] *CMS Gas Transmission Company v Republic of Argentina*, ICSID Case No ARB/01/8, Award (12 May 2005) ('*CMS Award*'), paras 315–331.
[81] *LG&E* (n 93), paras 226–261. The Tribunal excused Argentina from liability for the period from 1 December 2001 to 26 April 2003.

Both the tribunals of *Continental Casualty Company v. Argentine Republic* and *Total SA v. Argentine Republic* decided on the same issue of the availability of necessity as a defence in the case of Argentine economic crisis and further the LG&E approach is the new way of analysis. [82]

In the event that an existential threat of climate change was posed to be a threat to an essential interest, the case in favor of economic crisis threats being a fortiori convincing. With the damages to Grenada estimated at 16.5% of the GDP,[83] Hurricane Beryl hit not only economically but also existentially, as the destruction targeted not only livelihoods and infrastructure, but also the very ground and physical basis on which the state is founded on in terms of its sovereignty. In the case of SIDS and rising sea-level, the value of the stock exchange is not the vital interest involved, but the national territory itself as habitable. The critical interest which is involved in climate catastrophe is in the order of state interests, categorically superior to the economic interests which are identified in the Argentine arbitrations.

B. Grave and Imminent Peril:

The seriousness of the effects of climate on susceptible states is not open to debate. However, the imminence requirement, which has traditionally been interpreted to mean a particular and imminent danger in a given time period, presents a major challenge to the doctrine. Climate change does not come as one discrete event. It is a process of increasing intensity: every hurricane-season is more disastrous than the previous one, every drought is longer than the previous one, every flood is more disastrous.

This paper holds that the imminence requirement should be understood teleologically and not on a temporal basis. The ICJ at *Gabcsikovo- Nagymaros* observed that the peril must have been established at the point in time which is relevant and that it must be objectively established.[84] The ILC Commentary also adds that the peril should not be that which appears at the moment the protective measures are undertaken, but be one which is 'proximate' and not 'merely apprehended as possible.[85]

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[82] *Continental Casualty Company v Argentine Republic*, ICSID Case No ARB/03/9, Award (5 September 2008), paras 168–180; *Total SA v Argentine Republic*, ICSID Case No ARB/04/1, Decision on Liability (27 December 2010), paras 220–225.
[83] CPI Primer (n 1) 6.
[84] *Gabčíkovo-Nagymaros* (n 88), paras 53–54.
[85] ILC, Commentary to art 25 (2001) para 16.

The appropriate scientific evidence, i.e. IPCC and regional meteorological organizations, prove the statistical necessity of future climate catastrophes in specific timeframes with an ever growing degree of accuracy in case of the climate vulnerable states. The danger is no longer merely apprehended as possible when climate models indicate that a Category 4 hurricane is going to hit a particular Caribbean island in a particular decade with a measurable likelihood, and when the damage of the past has already caused the state to have its infrastructure on the verge of breaking down. It is a scientifically determined direction of increasingly harmful progress.

C. The Only Way:

The condition that the act should be the only means of protecting the essential interest has been construed literally. According to the ILC Commentary, necessity is not present in case there are other (otherwise legal) means, even though they might be more expensive or inconvenient.[86] Nevertheless, such a narrow understanding has to be revisited when it comes to climate-related debt.

In the event of a climate catastrophe that causes a significant portion of GDP to be ruined and, at the same time, creates emergency spending requirements, the sovereign has to make a real binary decision between service outside debt and reconstruction financing. The so-called alternative, which is emergency borrowing at high rates, will only contribute to the higher rate of the debt spiral and make people more vulnerable to the next climate shock in the long term. It is, in any decent meaning of the term, no such alternative as protects the vital interest; it is a more gradual means of reaching the same ruin.[87]

D. Non-Contribution and the Question of Climate Justice: -

Article 25(2)(b) excludes the necessity in cases where the state invoking it has added to the state of necessity. In theory, this provision could be used against any State, following the reasoning that all States are responsible in world emissions. Such interpretation would be absurd before the law. The most climate-sensitive states contribute a minute portion of the cumulative global greenhouse

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[86] ibid para 15; see also Robert Sloane, 'On the Use and Abuse of Necessity in the Law of State Responsibility' (2012) 106 American Journal of International Law 447, 463–464.
[87] Robert D. Sloane, ON THE USE AND ABUSE OF NECESSITY IN THE LAW OF STATE RESPONSIBILITY, page 463–464, available at https://www.bu.edu/lawlibrary/facultypublications/PDFs/Sloane/Necessity_AJIL_%202012.pdf

gas emissions - Barbados, in particular, is contributing less than 0.01%.[88] The contribution requirement, when correctly interpreted, is a situation of necessity, rather than any generalised causal contribution. The emissions of industrialised nations are overwhelmingly the factors that make SIDS more vulnerable to climate. Rejecting the plea of necessity due to a small causal contribution would be merely to compound historical injustice and come up with a legal result that is not tenable.

IV.4 The 'Permanent Necessity' Problem: Reconciling Chronic Peril with Exceptional Doctrine

The primary question that arises with the use of necessity to climate-related sovereign debt is that in case climate change makes necessity permanent, does the doctrine lose its special nature and thus its legal effectiveness? Article 25 was drafted with a purpose of restriction and in a negative form to highlight that necessity is an extraordinary defense, rather than a standing defense to non-compliance, which was intended by the ILC.[89] When the doctrine is to continue having its normative force, it cannot be a banal justification of failure to perform international obligations.

This tension is recognized in this paper but the claim is that it can be resolved by paying close attention to the calibration of doctrines. The difference between being vulnerable permanently and a particular incident that causes damage is made. The permanent condition is climate change, and the specific triggering events would be individual hurricanes, droughts, and floods. The doctrine of necessity is not invoked due to the climate change being a chronic condition that does not, in and of itself, preclude the performance of contracts, but due to a particular climate disaster causing a particular, acute, and demonstrable inability to service debt and at the same time preserving the physical existence of the state.

This reading maintains the unique nature of the doctrine and adjusts it to the realities of the twenty-first century. The danger is particular and provable in every case of invocation; it is the number of instances of qualification that is on the rise. To remain relevant in the twenty first century, the

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[88] Data derived from Global Carbon Atlas cumulative emissions data; Barbados's contribution to cumulative global CO_2 emissions is negligible relative to G7 nations.
[89] Paddeu and Waibel (n 89) 82–85.

doctrine should be able to absorb threats which are chronic, scientifically provable, and growing, rather than acute, sudden and temporary.

It is the so-called Modern Twist of the argumentation in this chapter: climate change has put the most vulnerable countries in an irreversible need. This reality must be reflected in the doctrine or it will become useless at the time when it is needed the most.

IV.5 Lessons from the Argentine Arbitrations

The different results of the Argentine investment arbitrations both provide hope and a lesson. The Tribunal determined necessity in LG&E, and not in CMS Gas Transmission, despite the existence of facts almost identical to each other.[90] This contradiction occurred due to the difference in the interpretation of Article XI of US-Argentina BIT and its connection with Article 25 of the ARSIWA as various scholars have pointed out.[91] The CMS Annulment Committee then found defects of law evident in the treatment of necessity by the CMS Tribunal, practically approving the analytical methodology of LG&E as the more reasonable one.[92] The *Continental Casualty tribunal* and the *Total tribunal* also affirmed that necessity is a defence on Argentine facts.[93]

There are three lessons to climate-debt disputes. *Firstly*, the doctrine of necessity can be offered in principle to sovereign debtors who are confronted with actual crises, it is a question of application, and not existence. *Secondly*, the standard of evidence is high and not insurmountable, especially in situations when objective, parametric data (the type that is employed to trigger CRDC) can be used to prove the severity of the crisis. *Thirdly*, the lack of regularity in the Argentine awards illustrates exactly why an ex ante contractual system (the CRDC) should be used in place of ex post doctrinal litigation (the necessity plea). The legal basis is the doctrine of

[90] *LG&E* (n 93); *CMS Award* (n 94).
[91] See August Reinisch, 'Necessity in Investment Arbitration' (2011) 41 Netherlands Yearbook of International Law 137; Alan O Sykes, 'Economic "Necessity" in International Law' (2015) 109 American Journal of International Law 296; see also Avidan Kent and Alexandra Harrington, 'The Plea of Necessity under Customary International Law: A Critical Review in Light of the Argentine Cases' in Chester Brown and Kate Miles (eds), *Evolution in Investment Treaty Arbitration* (CUP 2011).
[92] *CMS Gas Transmission Company v Republic of Argentina*, ICSID Case No ARB/01/8, Decision of the Ad Hoc Committee on the Application for Annulment (25 September 2007), paras 128–136. The Committee noted that the CMS Tribunal had made 'two manifest errors of law' in its treatment of necessity.
[93] *Continental Casualty* (n 96); *Total* (n 96).

necessity; the contractual realization is the CRDCs; the institutional structure is the UNCITRAL-style Model Law that is suggested in Chapter VI. Together, they constitute a tripartite structure.

IV.6 The Duty of Care: Sovereign Responsibility as the Flipside of Necessity

The need, as it has been traditionally formulated, is a defence, a defence provided by a State to preclude the wrongfulness of the otherwise unlawful act. According to the logic of the Priority Pivot, however, there is a positive duty in the negative. In the event that the physical survival of the State and its citizens represent a vital interest which justifies the suspension of debt obligations, the correlative duty of care is that the State has the responsibility to use the fiscal resources liberated by such suspension in climate adaptation and rebuilding.

Such framing changes the discussion of debtor defiance and makes it a discussion of fiduciary responsibility. Instead of defaulting, the sovereign is performing a fiduciary obligation to preserve the going-concern value of the nation, which as Chapter I has established, is the only foundation, on which any creditor recovery can ultimately be effected.

CHAPTER V: THE FUTURE OF THE INSOLVENCY ESTATE AND THE GREEN TAXONOMY

V.1 Climate Change: Revaluation of the Global Asset Estate

The conventional insolvency process is based on one major premise: the value of assets possessed by the debtor can be effectively determined by using the standard accounting procedures. Sovereign debt restructuring works on a similar, although less formalised, basis, that the ability of a country to raise revenue and meet debt can be anticipated with reasonable certainty using historical economic data. Climate change is making both assumptions very perilous.

This chapter discusses three associated changes that are redefining the valuation of sovereign assets: the emergence of natural capital as a quantifiable financial asset, the problem of stranded assets that distort balance sheets is growing, and new regulatory frameworks (including the green taxonomy of the EU and the California climate disclosure law) are putting these problems into formal financial reporting. Combined, these trends necessitate what this paper will call a Green Reset in the approach of sovereign asset valuation in the course of restructuring.

V.2 Natural Capital: From Externality to a Balance Sheet Item

The natural capital concept, which refers to the inventory of natural ecosystems, which generates a stream of goods and services, has shifted its places out of the fringes of ecological economics to the center of financial analysis. In 2021, HM Treasury commissioned The *Dasgupta Review* which found that the needs of the global economy on nature had overtaken its ability to provide, and that economies, livelihoods and well-being all relied on the most valuable asset, nature.[94] Taskforce on Nature-related Financial Disclosures (TNFD) which released its final recommendations in September 2023 offers a framework through which organisations should report and act on changing nature-related dependencies, impacts, risks, and opportunities.[95]

[94] Partha Dasgupta, *The Economics of Biodiversity: The Dasgupta Review* (HM Treasury, February 2021).
[95] Taskforce on Nature-related Financial Disclosures, 'Recommendations of the Taskforce on Nature-related Financial Disclosures' (September 2023) https://tnfd.global/recommendations-of-the-tnfd/.

Of particular relevance to the purpose of this paper, the United Nations Statistical Commission has embraced a new system of environmental-economic accounting, Ecosystem Accounting (SEEA EA), in 2021, and it provides an international statistical standard of integrating ecosystem services and natural capital into national accounting systems.[96] This shift renders the argument of balance sheet technically accurate and not metaphorical: natural capital is now measurable and valuable and can be included in the official records of sovereign states in internationally agreed methodology.

In the case of sovereign debt restructuring, the implication is far reaching. The rainforest of a nation is not just a source of timber but a carbon sink and the absorption capacity of the rainforest is financially valued in the international carbon markets. A coral reef is not a simple tourist site, it is also coastal defence infrastructure, whose services to dampen storm-surge would run into billions of dollars to recreate artificially. When this wealth is destroyed by climatic phenomena, or worn out by fiscal laziness, that the sovereign was compelled to pay money to service its debts; the loss is not only ecclesiastical but monetary. The solvency of the country is reduced.

V.3 Debt-for-Nature Swaps: New Practice in Emerging Markets

Debt-for-Nature Swaps (DFNS) are already in practice as an initial step towards the practical implementation of natural capital valuation in the restructuring of sovereign debt. In 2021, Belize used the intermediation of The Nature Conservancy to restructure about USD 553 million of sovereign debt, representing the total stock of commercial external debt in the country, represented by a single 'superbond', in exchange to marine conservation commitments, to the benefit of the country, reducing the debt stock by about 12% of the GDP.[97] In 2023, Ecuador converted its debts to the tune of USD 1.6 billion which is the largest amount in history, and just like the earlier case in the Galapagos Islands this debt repayment was tied to conservation promises.[98]

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[96] United Nations Statistical Commission, System of Environmental-Economic Accounting — Ecosystem Accounting (SEEA EA) (2021). The SEEA EA was adopted as an international statistical standard and provides the methodology for integrating ecosystem services and natural capital into national accounting frameworks.
[97] The Nature Conservancy, 'Belize Debt Conversion for Marine Conservation' (2021); see also IMF, 'Belize: Staff Report for the 2022 Article IV Consultation' (IMF Country Report No 22/365, December 2022).
[98] Government of Ecuador, 'Galápagos Marine Bond' (May 2023); see also Reuters, 'Ecuador Completes Record Debt-for-Nature Swap' (9 May 2023).

These deals indicate that the market has already embraced the assumption that it is possible to value and trade natural capital and incorporate it into sovereign debt instruments. What is lacking is a legal framework where such valuations are rigorously carried out and safeguarded against predatory speculation, the subject of the Arbitral Bridge suggested in Chapter VI.

V.4 Stranded Assets: The Rotting Pie Problem

A stranded asset is an asset that has been affected by negative or untimely write-downs, devaluations, or conversion to liabilities.[99] Stranded assets in the sovereign context take two different forms.

To begin with, there exist the physical stranded assets: infrastructure, real estate and land in areas that are becoming uninhabitable as a result of sea-level rise, desertification, or extreme weather. A hotel on the beachfront with a value of USD 10 million in the year 2010 might be of no value in the year 2026 when it is in a flood prone area which will no longer be insured. Conventional insolvency valuation techniques which use past market prices on such assets generate systematically overstated estimations of the debtor estate.

Second, transitional stranded assets are holdings that are carbon-intensive, e.g. coal mines, oil reserves and fossil-fuel infrastructure, whose value is becoming unvalued due to changes in regulations and markets towards decarbonisation. To nations that largely depend on hydrocarbon extraction as a source of sovereign revenue, such stranded assets are a time bomb on the national balance sheet.

When traditional asset-valuation techniques in the sovereign insolvency have now become obsolete (since they do not capture the positive value of natural capital as well as the negative value of stranded assets), then the Priority Pivot is not only desirable but also necessary. A restructuring based on an inflated asset valuation is a restructuring that is based on a false premise to allocate the fiscal resources of the sovereign. Any creditors who have agreed to such restructuring can soon realize that the assets have been reduced in terms of recovering them. The asset base on which recoveries by creditors are based is only maintained by climate-adaptation

[99] Ben Caldecott (ed), *Stranded Assets and the Environment: Risk, Resilience and Opportunity* (Routledge 2018) 1–14.

expenditure; therefore, climate risk needs to be priced into sovereign assets and climate-adaptation expenditure should be given priority.

V.5 The Regulatory Accelerant: EU and US Mandatory Disclosure Frameworks

A. The EU Framework

The sustainable finance model of the European Union is transforming climate risk into the issue of compulsory reporting, rather than abstract speculation. The Corporate Sustainability Reporting Directive (CSRD) obliges large corporations, such as financial institutions that have sovereign debt, to disclose on their sustainability risks by reference to the European Sustainability Reporting Standards (ESRS).[100] The initial round of CSRD reporting of financial year 2024 has already been issued in 2025 on the largest companies, i.e. the framework is no longer prospective and is already giving real data on climate exposure in the portfolio of financial institutions.[101] The Sustainable Finance Disclosure Regulation makes financial actors report sustainability risks to investments.[102] Together with the EU Taxonomy Regulation, it requires banks to compute the Green Asset Ratio (GAR), the amount of lending that is used to finance taxonomy-compliant sustainable activities.[103]

The implication on sovereign debt restructuring is implicit: in case a bank owns debt on a country that is literally uninsurable such because of climate risk, the debt must be recorded on the balance sheet of the bank. With the GAR framework becoming increasingly restrictive, sovereign debt of climate-sensitive countries with inadequate adaptation facilities will gradually be progressively downgraded, not due to mismanagement of their finances, but due to physical climatic exposure. A vicious cycle is put into play: countries that are highly in need of climate-resilience investment are rebuked by the said regulations that question the risk but disregard the stabilising value that relates to the adaptation spending. The priority pivot is offering a way out in that a country can indicate the fiscal policy it is handling is responsive to the risk of climate change that ultimately

[100] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (the 'CSRD').
[101] The first wave of CSRD reporting applied to large public-interest entities with more than 500 employees, covering financial year 2024 with reports published in 2025.
[102] Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector (the 'SFDR').
[103] Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021, art 10.

impairs the value of the investment of the creditors. The Priority Pivot is consequently non-anti-creditor but pro-valuation.

In early 2025, the Omnibus Simplification Package of the EU has put forward major changes to the CSRD, such as reducing its scope to companies with more than 1,000 employees and postponing the reporting requirement of wave two and three companies by two years.[104] Although this puts doubt on the rate of implementation, the movement of direction, in the direction of compulsory climate-risk disclosure, is well-established.

B. The US/California Framework:

In October 2023, the state of California enacted two climate disclosure bills, the Climate Corporate Data Accountability Act (SB 253) and the Climate-Related Financial Risk Act (SB 261). Taken together, the bills require the big businesses that already operate in California, to report their greenhouse gas emissions under the eyes of SB 253, and ultimately disclose the risks, primarily the financial ones, which they face as a result of climate change under SB 261.[105] SB 253 necessitates reporting organizations that have revenues of USD 1 billion and above to report Scope 1 and 2 emissions in 2026 and Scope 3 emissions in 2027.[106] SB 261 mandates the entities that have revenues greater than USD 500 million to publish monthly climate-related financial risk reports in accordance with the TCFD or the ISSB frameworks.[107]

The regulations adopted by the California Air Resources Board (CARB) on 26 February 2026 effectively put the laws mentioned above into effect, thus establishing the initial deadline of SB 253 of reporting on 10 August, 2026.[108] Although the enforcement of SB 261 has been put on hold

[104] European Commission, 'Legislative Package to Simplify EU Rules and Boost Competitiveness (Omnibus Package)' (26 February 2025).
[105] California SB 253, Climate Corporate Data Accountability Act, Cal Health & Safety Code § 38532; California SB 261, Climate-Related Financial Risk Act, Cal Health & Safety Code § 38533.
[106] SB 253, § 38532(b)(1)(A)(i)(I)–(II); California Air Resources Board, Regulatory Text § 96072, approved 26 February 2026.
[107] SB 261, § 38533; as amended by SB 219 (2024).
[108] CARB, Approved Regulatory Text (26 February 2026); PricewaterhouseCoopers, 'California Climate Reporting — SB 253 and SB 261 Explained' (March 2026).

by the Ninth Circuit Court of Appeals until a legal challenge is resolved, SB 253 is still in full force.[109]

The importance to sovereign debt restructuring is similar to the EU system: such requirements will force the US-based financial institutions to measure and report the climate risk inherent in their portfolios. With this risk made visible, the market will start distinguishing more and more between sovereign borrowers investing in climate resilience and those not doing so - the economic rationale behind the Priority Pivot.

V.6 Warning Against Greenwashing

The potential risk of overestimating climate assets as strategic assets is one of the most serious risks involved in the incorporation of natural capital into sovereign restructuring. When a government overvalues its forests or coastal ecosystem in order to get more favourable restructuring conditions, it is also involved in a kind of green overvaluation that is as debilitating to market confidence as an undervaluation of stranded assets. Likewise, in areas affected by floods, the value of assets should not be based on historical prices which were made before the risk of climate was realized.

This is exactly the reason why the Arbitral Bridge that is presented in Chapter VI is needed. Lacking autonomous, professional-based assessment of the natural capital and climate-adjusted asset base of the sovereign debtor, the debt-for-nature swaps and other climate-dependent restructuring devices become susceptible to inflations caused by debtors as well as speculations by creditors. In this case, the rule of law implies scientific accuracy in valuation, which is imposed by a neutral institutional mechanism.

[109] *Chamber of Commerce of the United States v California Air Resources Board*, Ninth Circuit, Order Granting Motion for Injunction Pending Appeal (18 November 2025) (applying only to SB 261); CARB, Enforcement Advisory (1 December 2025).

CHAPTER VI: THE UNCITRAL RELATIONSHIP: FROM COMMERCIAL TO SOVEREIGN RESILIENCE

VI.1 The Institutional Gap

The two chapters above have developed two of the three pillars of the tripartite framework of this paper the Priority Pivot (the logic) and Climate-Resilient Debt Clauses supported by the Doctrine of Necessity (the contractual and doctrinal mechanism). However, contracts do not and doctrines do not exist in an institutional vacuum. CRDCs limit secure relationships between creditors to the relationships in which they are incorporated. The doctrine of necessity can be provided as a post-hoc defence in discontinuous jurisdiction. They both fail to address the systemic anarchy that defines sovereign default: the lack of an organising mechanism that can ensure that one holdout creditor can bring a whole country to its knees during reconstruction - the very issue exhibited by NML Capital v Argentina.

The third pillar, institutional reform, is suggested in this chapter. In particular, it supports a Sovereign Climate-Disaster Model Law (SCDML), which would apply the principles of coordination of the UNCITRAL Model Law on Cross-Border Insolvency (MLCBI) to the sovereign level with an Arbitral Bridge of a neutral assessment of the value of claims in climate cases.

VI.2 The UNCITRAL Precedent: What the MLCBI Has Achieved

The UNCITRAL Model Law on Cross-border Insolvency (1997) has been the most successful model of coordinating insolvency proceedings across jurisdictions, and has been adopted in 60 States as of 2025.[110] Its brilliance is that it is modest: it does not establish a supranational court, supersede domestic law or a uniform insolvency regime among all States. It instead presents a list of principles such as recognition of foreign proceedings, relief mechanisms, cooperation between courts and coordination of parallel proceedings that enable the domestic systems to collaborate but not to interfere with their differences.[111]

[110] UNCITRAL Model Law on Cross-Border Insolvency (1997), with Guide to Enactment and Interpretation (2013) ('MLCBI'). As of 2025, the MLCBI has been adopted in 60 States.
[111] See generally Look Chan Ho (ed), *Cross-Border Insolvency: A Commentary on the UNCITRAL Model Law* (4th edn, Globe Law and Business 2017); UNCITRAL, *Legislative Guide on Insolvency Law* (2004) pt III.

The MLCBI is established on the principle of COMI the Centre of Main Interests, which establishes which proceedings are identified to be the main proceedings, and which are the non-main proceedings.[112] This theoretical framework has been flexible with common-law and civil-law jurisdiction, in developed and developing economies, and in radically different insolvency ideologies.

Nevertheless, in spite of decades of academic support, there is no equivalent framework in sovereign insolvency.[113] The ad hoc characteristics of sovereign debt restructuring, which is done via Paris Club negotiations (bilateral debt), London Club negotiations (commercial bank debt), and one-off contractual renegotiations (bonded debt) creates a patchy, sluggish and susceptible result.[114] The Common Framework on Debt Treatments outside the DSSI, which was developed by the G20 in November 2020, was meant to fill this gap in the poorest countries, yet its application has been marred by delays and lack of coordination.[115]

VI.3 The Proposal: A Sovereign Climate-Disaster Model Law (SCDML)

The present paper suggests a Model Law, prepared under the umbrella of UNCITRAL (or, in another case, as a multilateral treaty tool), which is applicable to the sovereign debt restructuring related to certified climate disasters. The core components that would be included in the SCDML would be:

A. Liquidation to Reconstruction: The 'Sovereign COMI'

The MLCBI organizes meetings geared, ultimately, towards deriving a maximum value out of a failing company. This objective would be reversed by the SCDML. Since a sovereign can not be sold, the aim of coordination is reconstruction: the renewal of the productive ability of the State to such a degree that it will be in a position to restart debt service.

The SCDML revisits the concept of COMI as a way of developing a so-called Sovereign COMI: the definition of the key climate areas of the State, including its territories, ecosystems, and infrastructure, whose conservation is conditional upon the further economic sustainability of the

[112] MLCBI (n 125), arts 2(b), 16, 17.
[113] Krueger (n 28); IMF 2013 Policy Paper (n 34).
[114] Buchheit and Gulati (n 27).
[115] See IMF, 'The G20 Common Framework for Debt Treatments — An Updated Overview' (IMF Policy Paper, December 2023).

State. The identification would be done by an independent panel of climate scientists and environmental economists, who would work under the terms of reference developed by the Climate-Debt Committee (discussed below) and use criteria based on the TNFD framework and the SEEA EA spatial delineation methodology.[116] The Priority Pivot framework would treat adaptation spending to the Sovereign COMI as having a super-priority.

B. The Global Climate Stay: An Automatic Bar on Holdout Litigation

Similarly to how the MLCBI offers a stay of proceedings when a foreign insolvency proceeding has been recognized,[117] the SCDML would offer Global Climate Stay. The SCDML would automatically stay all enforcement measures, attachment proceedings and holdout litigation against the sovereign in participating jurisdictions once an independent body has certified that a qualifying climate event has occurred, by applying parametric triggers, which are similar to those applied in CRDCs.This would be a direct solution to the NML Capital problem. Both the injunction of the New York courts against Argentina paying its restructured bondholders could not have been made, or, at least, would have been subject to automatic review and possible suspension under the provisions of the Model Law had the SCDML been in place at the time of the crisis in Argentina.

The Global Climate Stay would be time restricted (this paper suggests an initial period of two years, which can be renewed once the sustainability of the climate emergency has been certified), thereby resolving the issues of the creditor described indefinite suspension. It would be automatic once the parametric trigger has been met, and no protracted litigation would be necessary on whether the crisis occurred or not.

a. Climate-Debt Committees: The Coordination Mechanism:

The MLCBI organizes the proceedings based on the principle of cooperation between the courts and among the insolvency representatives.[118] Climate-Debt Committees, including the representatives of: (i) the debtor sovereign; (ii) Official bilateral creditors; (iii) multilateral

[116] The criteria would draw upon the TNFD's LEAP approach (Locate, Evaluate, Assess, Prepare) and the SEEA EA's spatial delineation methodology: see TNFD (n 110); SEEA EA (n 111).
[117] MLCBI (n 125), arts 20, 21.
[118] ibid arts 25–27.

development banks; (iv) Private bondholders; and (v) Climate scientists and environmental economists as technical advisors, would be replaced by the SCDML.

The Climate-Debt Committee would substitute the existing ad hoc process of negotiation with a permanent coordination institution with clearly defined rules. It would have a mandate to make a Sovereign Reconstruction Plan which would divide the fiscal resources of the sovereign between: (a) climate-adaptation and reconstruction spending (super-priority under the Priority Pivot); (b) necessary public services (administrative costs); and (c) payment of debt (residual claims).

VI.4 The Arbitral Bridge: Scientific Valuation Through Neutral Expertise

A. The Problem of Valuation:

It was illustrated in Chapter V, that to bring natural capital and stranded assets into the valuation of sovereign assets, it is necessary to have expertise that goes beyond the capability of financial advisors or insolvency lawyers. What can the value of a mangrove forest as a storm-surge attenuation service be? What is the value of the contribution of a coral reef to fishery productivity, as the present value? What does one do to establish whether a coal deposit is an asset or a liability given that a world is pledged to the Paris Agreement targets? Having no objective system to arrive at a value, these questions soon become adversarial speculation. There is an incentive on the part of the debtor sovereign to overprice its natural capital (to receive more favourable terms of restructuring), and holdout creditors to under-price it (to maximize their cash recovery).

B. The Proposed Mechanism:

This paper suggests using the Permanent Court of Arbitration Optional Rules of Arbitration of Disputes Relating to Natural Resources and/or the Environment as the procedural model of the climate-debt valuation disputes.[119] The PCA Environmental Rules, which came in effect in June 2001 by the Member States of the PCA, were created with the express purpose of resolving disputes that needed specialised knowledge in the fields of environmental and scientific expertise. Their original features consist of those which provide the appointment of scientific and technical

[119] Permanent Court of Arbitration, Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment (adopted 19 June 2001) ('PCA Environmental Rules'), available at https://docs.pca-cpa.org/2016/01/Optional-Rules-for-Arbitration-of-Disputes-Relating-to-the-Environment-and_or-Natural-Resources.pdf.

experts by a specialised panel which is maintained by the PCA, prompt constitution of tribunals, updated choice-of-law provisions, and the procedure of provisional measures.[120]

Any party to a sovereign restructuring governed by the SCDML (or to any other party on which a sovereign valuation conflict arose) could submit such valuation conflicts to an arbitral tribunal established under the PCA Environmental Rules under the proposed Arbitral Bridge. The tribunal would employ Expert Masters, climate scientists, environmental economists, and natural capital accountants, to offer binding determinations of the assets and liabilities of the sovereign that may be associated with climate. Such valuations would be the foundation of debt-for-nature swaps, calculating the super-priority climate-adaptation budgets and the residual debt-service capacity of the sovereign.[121]

It must be noted that none of the arbitrations conducted under the PCA Environmental Rules have so far been publicly reported; thus is a proposed untested procedural framework. Although, institutional legitimacy of the PCA, expertise of environmental panels and particularity of the design of the Rules to environmental and scientific disputes can give a good basis to this application.[122]

C. Consistency with Existing Institutions:

The suggested SCDML and Arbitral Bridge will not substitute the current institutions, but complement them. The IMF does not lose its macroeconomic evaluation and conditionality. The Paris club and London club do not lose their functions in bilateral and commercial debt negotiation. The CRDC framework (Chapter III) remains on the contractual level. It is the SCDML that offers the overall coordination mechanism the missing part that links these haphazard parts together into a coherent multilateral structure.

VI.5 Political Economy: Why would Creditor Nations adopt the SCDML?

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[120] The PCA Environmental Rules were drafted by a working group of environmental law experts and adopted by the PCA's then 94 Member States: see PCA, 'Panels of Arbitrators and Experts for Environmental Disputes' https://pca-cpa.org/en/about/panels/panels-of-arbitrators-and-experts-for-environmental-disputes/; see also Dane Ratliff, 'A Unified Forum? The New Arbitration Rules for Environmental Disputes Under the Permanent Court of Arbitration' (2002) 3 Chicago Journal of International Law 263.

[121] PCA Environmental Rules (n 134), arts 8, 26.

[122] While several environmental arbitrations have been administered by the PCA under its general Optional Rules, no publicly reported case has been conducted specifically under the Environmental Rules. This is therefore a novel application of an existing but untested procedural framework.

The most glaring practical objection to the SCDML is: why should major creditor countries: the United States and the United Kingdom, whose courts in New York and London rule over the very larger part of sovereign debt, adopt a model law that limits the jurisdiction of their courts?The MLCBI was no exception and was met with the same opposition and superseded by practical use. The United States and the United Kingdom adopted the MLCBI in 2005 (as Chapter 15 of the Bankruptcy Code) and 2006 (as the Cross-Border Insolvency Regulations 2006) respectively.[123] The adoption in both instances was not based on altruism but rather the understanding the coordination of cross-border insolvency processes yields greater benefit to all stakeholders such as creditors than do the fragmented and competing cross-jurisdictional processes.

This is the same case with the SCDML. The NML Capital litigation was not helpful to the creditor group as a whole; it helped one holdout at the expense of the 93 per cent of the creditors who had accepted the restructuring. A pre-determined, well-organized structure of climate-based restructuring lowers the litigation expenses, enhances predictability, and maintains sovereign going-concern value, which are beneficial to the creditor-nation financial institutions.

In addition, the increasing regulatory demands of the CSRD of the EU and the SB 253 of California (see Chapter V) imply that banks that already have sovereign debt in climate-prone countries must already measure and report their exposure to climate risk. The SCDML is the institutional apparatus of dealing with that exposure as opposed to reporting it. The creditor countries are therefore interested in a construct that will minimize the likelihood of disorderly sovereign failures caused by climate events- failures that will cause losses to their financial institutions.

Concerning the particular institutional route to developing the SCDML, this paper suggests that the suitable institution is the Working Group V (Insolvency Law) of UNCITRAL, which has been successful in creating the MLCBI, the Model Law on Recognition and Enforcement of Insolvency-Related Judgments (2018), and in the Model Law on Enterprise Group Insolvency (2019)[124]. It is the natural home of the SCDML because of its proven skills in cross-border insolvency coordination and institutional legitimacy in the United Nations system.

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[123] 11 USC § 1501 *et seq* (Chapter 15, adopted 2005); Cross-Border Insolvency Regulations 2006, SI 2006/1030 (United Kingdom, adopted 2006).

[124] UNCITRAL Working Group V has produced, *inter alia*, the MLCBI (1997), the *Legislative Guide on Insolvency Law* (2004), the Model Law on Recognition and Enforcement of Insolvency-Related Judgments (2018), and the Model Law on Enterprise Group Insolvency (2019).

OBSERVATIONS AND CONCLUSION: SAVING THE DEBTOR TO SAVE THE CREDITOR

I. The Convergence of Three Pillars

This paper has developed a three-part structure of dealing with the nexus of climate vulnerability and sovereign debt distress:

First, the Priority Pivot (Chapter I) gives the logic behind it. By reclassification, climate adaptation spending as an administrative cost of the sovereign of a super-priority status like the DIP Financing of the Chapter-11, the notorious Interim finance under IBC and the priority moratorium debts under the UK law, this framework allegedly provides the aspect of preservation of the going-concern value of a nation, making it not merely a policy reference but a requisite of fiduciary nature, to a sustainable reorganization of debt.

Second, there are debt clauses that relate to climate resilience (Chapters III and IV) that offer contractual and doctrinal solutions to the temporary suspension of debt obligations in cases of an emergency associated with climate. CRDCs are the ex-ante contractual solution: parametrically activated, pre-agreed, NPV-neutral deferrals which are equivalent to the logic of the automatic stay but do not necessarily involve an actual insolvency regime. The Doctrine of Necessity offers the ex post doctrinal fallback in those situations in which no CRDC is available, and the suspension of debt service is based on the traditional international law of state responsibility.

Third, Chapters V and VI establish the institutional framework of the framework with the Sovereign Climate-Disaster Model Law and the Arbitral Bridge. The SCDML aligns creditor rights between jurisdictions by creating a Global Climate Stay and Climate-Debt Committees, which makes it impossible to have holdout creditors stand in the way of sovereign reconstruction. Using the PCA Environmental Rules, the Arbitral Bridge assures that the process of valuing the natural capital and the climate-adjusted assets is carried out in a neutral, expert-guided, and scientifically rigorous way.

II. The Fundamental Equation: Destruction *v/s* Recovery

The argument of this paper boils down to just one thing: creditor recovery is a sovereign survival function. When the debtor nation is ruined, its coasts flooded, its farmland parched up, its infrastructure smashed, its people displaced, there will be no contractual provision, however carefully written, will yield a result. The survival value of the country will have been killed and any further commitments will be null and void.

On the other hand, when the debtor country recovers, when its seawalls stand, its farms are changed, its people are never idle, and then creditor recovery, though postponed, is eventually insured. Any amount of money used in climate adaptation is also an investment in the future capacity of the sovereign to raise tax revenue. Any dollar that is spent on adaptation instead of paying off debt service is a dollar that makes it more difficult to have the capacity to adapt.

This is not just a moral argument, but there is the support of morality. This is an argument of money, expressed in the terms of insolvency law: the administrative costs of the estate must be paid in preference of the remuneration of general creditors, since without the administrative costs there is no such thing as an estate.[125]

III. Addressing the Objection: Why Creditors Benefit?

One issue that has been lingering among creditor-side stakeholders is that the Priority Pivot, CRDCs, and the SCDML constitutes a one-sided transfer of value between creditors and debtors. This is a legitimate concern that is misplaced.

This framework is advantageous to international creditors since a strong nation will have greater chances of repaying some debt compared to a ruined nation repaying any debt. The Priority Pivot makes no claims to the elimination of creditor claims; it merely maintains the asset base over which the claims rely.

IV. The Road Ahead: Open Questions & the concrete Next Steps

A number of questions should be explored more and by the institution:

[125] Baird (n 4) 161–175; 11 USC §§ 503(b), 507(a)(2).

First, the problem of restructuring interaction: what needs to be done to deferred amounts in the case of CRDCs when the sovereign then needs to be formally restructured in debt? The ICMA PSWG recognized this question but failed to answer it. Certain provisions to be incorporated in the SCDML should deal with the priority of CRDC-deferred claims in future restructurings.

Second, the trigger problem: parametric triggers have been developed in the case of hurricanes, and similar triggers have not been developed in the cases of droughts, floods, slow-onset events, and compound disasters.[126] Global Climate Stay is dependent on the strength and autonomy of the mechanism, which causes it to happen.

Third, the adoption gap of the private sector: the difference between MDB adoption and private creditor adoption implies that, in most cases, SIDS, a CRDC induced deferral on official loans can be accompanied by ongoing, unchanged debt service payments to commercial creditors. Such partial coverage issue may have a paradoxical outcome as it may lead to the situation when official creditors cross-subsidise the payments of private creditors in the case of a climate crisis.

Fourth, the fiscal conditionality question: the CRDC does not at the moment include any contractual obligation that fiscal space liberated by the deferral be channeled towards disaster recovery. The Climate-Debt Committee structure of the SCDML fills this loophole by stating that a Sovereign Reconstruction Plan is required, although the conditionality design will be sensitive to calibration.

V. The Concrete Next Steps

The institutional pathway to the implementation of the tripartite framework suggested in this paper is the following:

Working Group V (Insolvency Law) UNCITRAL should be required to take up the SCDML with the benefit of its long-standing experience in cross-border insolvency coordination and the success of its model laws in achieving widespread acceptance. The technical advisory body in the design of triggers and standardisation of contracts should be the CRDC Technical Working Group, which is now convening once a month with the secretariat of the Sustainable Sovereign Debt Hub and

[126] CPI Primer (n 1) 12–14.

legal advice provided by Clifford Chance[127]. Even the International Insolvency Institute (III) as the most prominent international organization of insolvency practitioners should think of the resolution supporting the inclusion of climate resilience in the sovereign restructuring systems and urge its members to contribute to the creation of the SCDML.

VI. The Final Proposition

The current international legal order is more protective of contracts than it is protective of people. The right of a hedge fund to receive complete compensation overrides the obligation of a country to provide protection to its citizens against disaster. Boilerplate pari passu provision prevails over the duty of a sovereign to safeguard the ecological principles on which its own existence depends.

This paper claims that not only is this hierarchy unjust, it is also economically irrational. The present system kills the property possessions on which all contractual recoveries are based by placing more emphasis on contractual absolutism than on the survival of the sovereign. The Priority Pivot, the CRDCs, the Doctrine of Necessity, and the SCDML all go together to create a consistent framework of reversing this hierarchy. It is not to abolish the rights of the creditors, but to rearrange them in a manner that makes sense to the very logic of insolvency law itself.

In the terms of insolvency: *to save the creditor, it is necessary to save the debtor*.

In the language of this paper: *speaking the language of money to the problem of nature.*

[127] Sustainable Sovereign Debt Hub (n 82).

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