Environmental Justice

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ABSTRACT: **Mapping Climate Justice** proposes a 3-dimensional environmental justice approach to share economic benefits and the burden of climate change right, just and fair around the globe. Scientific data is backed by ethical imperatives. Gross Domestic Product (GDP) gains and losses of a warming globe are captured to be distributed unequal around the world. The ethical climatorial imperative demands for an equalization of the gains of climate change around the globe in order to offset losses incurred due to climate change (Kant 1783/1993; Puaschunder 2017b, c; Rawls 1971).

First, climate justice within a country should pay tribute to the fact that low- and high-income households carry the same burden proportional to their disposable income, for instance, enabled through a progressive carbon taxation, consumption tax to curb harmful behavior and/or corporate inheritance tax to reap benefits of past wealth accumulation that may have caused climate change (Puaschunder 2017c).

Secondly, fair climate change change burden sharing between countries ensures those countries benefiting more from a warmer environment also bear a higher responsibility regarding climate change mitigation and adaptation efforts (Puaschunder 2019).

Thirdly, climate justice over time is proposed in an innovative climate change burden sharing bonds strategy, which distributes the benefits and burdens of a warming earth Pareto-optimal among generations (Puaschunder 2016a). All these recommendations are aimed at sharing the burden but also the benefits of climate change within society in an economically efficient, legally equitable and practically feasible way now and also between generations.

KEYWORDS: Agriculture, Climate Change, Climate Change Gains, Climate Change Losses, Climate Justice, Industry, Macroeconomic Modelling, Service, Taxation, United States, World

Future Climate Wealth of Nations is derived from climate flexibility defined as the range of temperature variation of a country. In a changing climate, temperature range flexibility is portrayed as a future asset for production flexibility and international trade of commodities leading to comparative advantages of countries.

A broad spectrum of climate zones has never been defined as asset and comparative edge in free trade. But future climate change will require territories being more flexible in terms of changing economic production possibilities on a warming globe. The more climate variation a nation state possesses, this novel project argues, the more degrees of freedom a country has in terms of GDP production capabilities in a changing climate.

Modeling and empirical validation: These preliminary insights aid in answering what commodity prices, financial flows and trade patterns we can expect given predictions the earth will become hotter. Climate variation based on cyclical changes or climate zones will become subject to scrutiny for associations with climate-based advantages and risks. Economic modeling, cross-sectional world country comparisons, time series and panel regressions will scrutinize temperature data in relation to production in order to derive inferences for future Climate Wealth of Nations. Already now, the degree of climate flexibility is found to be related to human migration inflows. The previously defined climate change winner and loser index is blended with the novel insights on climate flexibility, leading to an unprecedented outlook on future Climate Wealth of Nations in a climate changing world (Puaschunder, forthcoming).

Lastly, future climate change induced market changes are planned to be derived from scarcity of agriculture production. Individual commodities price distributions will become the foundation for commodity price expectation estimates in the environmental domain backtested on actual data. In honor of Natasha Chichilnisky-Heal, special attention will be paid to the role international institutions play to alleviate anti-corruption in commodity pricing and trade wars.

Political economy implementation: Market prospects and public policy recommendations are pursued in order to aid the greater goal to implement environmental justice now and for future generations. The wealth that is in the climate of a territory should be transformed into wealth in the hands of the citizenry (Chichilnisky-Heal, n.d., Bargaining to lose).

The early Chichilnisky-Heal (n.d., Memorandum) worked on (1) the challenges international organizations face in mediating between explicit and unstated goals and in building credibility with developing countries as well as (2) the importance of balance between an ideal-world policy prescription and a contextualized policy implementation, unique to each nation (Chichilnisky-Heal, n.d., Memorandum). As Chichilnisky-Heal (n.d., Memorandum) credibly argued, politicizing by states at the expense of environmental protection is a suboptimal strategy. Finding an effective way to prevent or manage such disputes is vital in order to mitigate the high economic, political and human costs associated.

Inspired by Chichilnisky-Heal's work, the proposed research will address the resource curse. The framework will address the political economy problems that emerge as a result of the distinctive path experienced by many GDP-poor but resource-rich nations in the past 25 years, focusing specifically on the quality of democracy (Chichilnisky-Heal, n.d., Bargaining to lose). Addressing the cases of the changing nature of democracy in poverty-stricken resource-rich nations around the world, promises to add the most valuable real-world relevant angle to the Mapping Climate Justice framework.

Chichilnisky-Heal works out the relation between permeability and the resource curse. Permeability is the process by which external non-state actors such as the International Monetary Fund and multinational corporations (MNCs), by virtue of their relationships with cash-strapped resource-rich governments, enter into crucial roles in the governance of these nations (Chichilnisky-Heal, n.d., Bargaining to lose). Permeability measures the degree to which a democratic government and its processes have been "permeated" by actors other than its domestic constituent base. As, Chichilnisky-Heal (n.d., Bargaining to lose) analyzes, permeability functions as a concept opposed to that of sovereignty – while in today's world hardly any country exercises absolute sovereignty over their own territory and economy, states that exhibit permeation, or experience the phenomenon of permeability, necessarily exhibit lower levels of domestic sovereignty. Chichilnisky-Heal (n.d., Bargaining to lose) vividly outlines this in the cases of post-transition Zambia and Mongolia. Higher levels of permeability cause lower levels of political (and economic) development by creating opportunities for and incentivizing corruption.

Chichilnisky-Heal (n.d., Bargaining to lose) defines political underdevelopment as problem to occur between permeability and a reduction in democratic accountability of these governments to their domestic constituencies. Theorists overlook the impact of permeation on democratic accountability and societal development (Chichilnisky-Heal n.d., Bargaining to lose). Chichilnisky-Heal outlines that external actors (multilaterals and MNCs) bargain extensively with host governments over the regulation of industries. This phenomenon Chichilnisky-Heal (n.d., Bargaining to lose) argues skews the democratic process not simply by making the government economically beholden to the external actors, but also by giving the external actors a permanent seat at the bargaining table of domestic politics. Keck and Sikkink's work on transnational advocacy networks and Stiglitz' work on the social networks within the World Bank and IMF demonstrate, network connections can easily pervert intentions as outlined in principal-agent problems and social network predicaments driven by distance, misinformation and conflicting incentives (Chichilnisky-Heal n.d., Bargaining to lose). As was vividly outlined by Chichilnisky-Heal in the real-world dependence of oil

prices on politics in the Russia-Ukraine dispute, natural resources prices are susceptible to politically-driven supply cutoffs and dependent on infrastructure management regimes.

Chichilnisky-Heal (n.d., Memorandum) proposed a model of an intermediate level of global governance in a regional institution designed to combat permeability and other challenges with regional impacts. Chichilnisky-Heal recommends to scrutinize the rise of regional governance institutions that can overcome the above challenges. Chichilnisky-Heal's idea is to create a new international institution that serves this very objective: not only to standardize pricing negotiations and to resolve disputes, but to bind its member states to their commitments. (Chilnisky-Heal n.d., Memorandum) An as such institution is legitimized by the fact that existing dispute resolution mechanisms and institutional arrangements have proven to be inadequate and to possess major drawbacks. Chichilnisky-Heal (n.d., Memorandum) brought forward vivid examples in the energy sector that contain weak incentives for compliance and failure to ratification by certain key players.

Clear mission statements what is needed in an institution with mission to address the international particularities of climate change winners and losers around the globe are recommended to be granted with a focus on geographic scope and regional incentives. The geographic scope is advised by Chichilnisky-Heal to encompass all key producers, consumers, and transit states. In the words of Chichilnisky-Heal, the point is to bring together countries already engaged with each other closer together on an international institutional level. An as such agency could work with stable transit fees and sovereign controls of domestic infrastructure, including control of storage and shortage risk management (Chichilnisky-Heal n.d., Memorandum)

As for institutional structures, the proposed international regulatory and oversight body should feature signatory member states that issue differentiated contributions but vote in a democratic one-country-one-vote principle. This is important as large countries and major commodity suppliers should not be dominating or abusing their market dominance at the expense of smaller, more dependent countries. To avoid harmful cartels and corruption, member states are advised to negotiate the terms of new and existing projects entirely within the framework of the Agency. One of the main functions of the Agency – proposed by Chichilnisky-Heal – is to set guidelines for the pricing negotiations. Thereby each member state is required to contribute funds to an escrow account that is accessible as commodity price rescue fund for vulnerable communities in case of crises and commodity bubbles. This is designed to create a cushion of stability for those countries that will be losing climate flexibility. The prevalence of opaque pricing mechanisms should be made transparent in market incentives for transparency but also concurrent research efforts. In particular, Chichilnisky-Heal recommends the merits of net-back pricing compared to cost-plus or net-forward pricing as it offers greater transparency and predictability in contract negotiations and will be applicable even as alternate sources of income. For member states in a climate transition period, Chichilnisky-Heal's work points at an annual adjustments to be smoothed over time to prevent a drastic price changes.

The Agency should also feature a dispute management over cross-border trade wars that put upward pressure on commodity prices. Disputes can range from technical, legal, commercial and political frictions. Technical disputes concern the quantity and quality of commodities being supplied to and withdrawn from cross-border trade. In order to combat corruption, monitoring stations are advised to be put in place at entry and exit points along national boards, to be staffed by pre-selected technicians from an Independent Commission. Legal disputes over contract violations. To resolve legal disputes, Chichilnisky-Heal proposes the appointment of a neutral expert to arbitrate and, if necessary, facilitate new contract negotiations. Commercial disputes will be mitigated by the existence of escrow accounts, filled regularly by each member state and then drawn down in the case of non-payment. Financialization risk management strategies should be pursued to preventing supply cut-offs caused by payment defaults. Commercial disputes will be mitigated by the creation of escrow

accounts upon the signing of supply contracts, into which perhaps 18 to 36 months worth of payments would be placed. In the event of a dispute over payment or insolvency of the purchasing state, funds would be drawn down from these escrow accounts to ensure uninterrupted supply of energy to consumers while the parties to the supply contract come to an agreement (Chichilnisky-Heal n.d., How to solve the pipeline problem). Escrow accounts offer a depoliticized solution to payments as they are inaccessible except during a dispute. In the case of insolvency, there should be a "bridge" period installed during which payments will be made out of the account and the non-paying country will be expected to begin refilling the account. Another mechanism of commercial disputes is to clearly delineate national sovereignty – so that there can be no theft of commodities. In the face of political disputes, such as security concerns, all parties should engage in consultations. All member states would benefit from the long-term commitment and the chance to work within a dispute resolution framework that puts commercial and institutional stability ahead of politics.

As with all international organizations, obstacles include weak incentives for compliance and non-ratification or adherence to universal international legally binding instruments (Chichilnisky-Heal n.d., How to solve the pipeline problem). In order to overcome generality and ineffectiveness, a new institution should address the specific and complex commodity and energy security issues without losing the capacity to please all involved parties (Chichilnisky-Heal n.d., How to solve the pipeline problem). The establishment of an as such institution should feature all the actors involved in transnational commodities transfers including member states representatives, observer states and market actors such as suppliers, transit states, and consumers of energy who must prioritize energy security (Chichilnisky-Heal n.d., How to solve the pipeline problem).

The Agency should embrace all stakeholders in order to overcome the risk of international bargains being vetoed at the domestic level by bringing domestic actors directly to the international bargaining table. This suggestion follows a new form of politics, which truly blends international and domestic endeavors (Chichilnisky-Heal 2013). This addresses a trend in international relations theory of lowering the barrier between international and domestic politics, instead viewing the two as in many cases inextricable (Chichilnisky-Heal 2013).

An additional idea Chichilnisky-Heal (2013) brings forward is that a more individualized human touch should be featured in climate change negotiations. This appears problematic as states appear to be classified and operationalized as a unitary actor, which she finds as shakiness in International Relations Theory. Chichilnisky-Heal (2013) argues for the care of individual lives over the continuation of states.

Chichilnisky-Heal (n.d. "IR 1, Susan Hyde, Week 4 Response Paper") also writes about social norms and how they differ radically across the globe, and even within state societies. Norms regarding international relations are shaped by history, by intellectual developments, and by changing self-interest, Chichilnisky-Heal (n.d. "IR 1, Susan Hyde, Week 4 Response Paper") points out. History provides data for extrapolation and we may draw from it. Self-interests, in a rational choice paradigm, adjust according to exogenous and endogenous variables, hence also a changing climate.

Lastly, Chichilnisky-Heal spearheads theoretical advancements by pointing out that rational choice theory being grounded on the assumption that the unitary state representative can compute likelihoods and outcomes in complex strategic settings. This idea has been challenged in both theoretical and empirical literature as early as in Scharpf (1991), Chichilnisky-Heal (n.d. "IR 1, Susan Hyde, Week 4 Response Paper") notes. Chichilnisky-Heal prospects rational choice theory to adapt itself to empirical advancements – such as bounded rationality and prospect theory. Chichilnisky-Heal proposes to use strategic choice to be the most constructive framework for studying political action but the limitations of rational choice to be prevalent in extremes of human behavior, which Chichilnisky-Heal points out to be consistent with Kaufmann and Pape's norm-driven explanation. At the

extremes of the human experience, Chichilnisky-Heal argues rational choice and norm-driven behavior overlap to drive decision-making. As a critique of rational choice, Chichilnisky-Heal vividly outlines that catastrophic risk cannot be simulated in laboratory settings to be tested (n.d. "IR 1, Susan Hyde, Week 4 Response Paper").

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