

**Fair climate policy in an unequal world:
Characterising responsibilities and designing institutions
for mitigation and international finance**

Jonathan Richard Pickering

December 2013

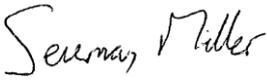
A thesis submitted for the degree of Doctor of Philosophy
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Declaration

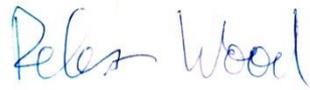
The work in this thesis is original. I certify my contribution to the authorship of the works submitted for publication that are contained in the thesis as per the table below and overleaf. No part of this thesis has been submitted for any degree or is currently being submitted for any other degree. To the best of my knowledge, all help received in preparing this dissertation, and all sources used, have been acknowledged.

Signed _____ Date _____

Chapter details	Candidate's contribution to research and authorship	Signatures of collaborating authors
<p>2. "On the concept of climate debt: Its moral and political value" (Jonathan Pickering and Christian Barry)</p> <p>Published in <i>Critical Review of International Social and Political Philosophy (CRISPP)</i> (2012)</p>	<p>JP and CB jointly developed the concept and theoretical framework for the article. JP led the writing of the article. CB drafted sections comparing other kinds of debt and concerns about benefiting from injustice, and revised successive drafts of the article.</p>	 <hr/> <p>Christian Barry</p>

Chapter details	Candidate's contribution to research and authorship	Signatures of collaborating authors
<p>3. "If equity's in, we're out': Scope for fairness in the next global climate agreement" (Jonathan Pickering, Steve Vanderheiden and Seumas Miller)</p> <p>Published in <i>Ethics and International Affairs</i> (2012)</p>	<p>JP, SV and SM jointly developed the concept for a working paper containing documentary analysis of climate change negotiations that informed the article.¹ JP conducted the documentary research for the working paper, led the formulation of the theoretical argument for the article and wrote the bulk of the article. SV and SM drafted portions of the article, and made revisions to other sections.</p>	 <hr/> <p>Steve Vanderheiden</p>  <hr/> <p>Seumas Miller</p>
<p>4. "Regulating the 'new tobacco': Do those who lose out from climate policies deserve compensation?" (Jonathan Pickering)</p> <p>Under review in <i>Politics, Philosophy and Economics</i></p>	<p>Sole author</p>	<p>N/A</p>

¹ Jonathan Pickering, Steve Vanderheiden, and Seumas Miller, "Ethical issues in the United Nations climate negotiations: A preliminary analysis of parties' positions" *CAPPE working paper* (Canberra: Centre for Applied Philosophy and Public Ethics (CAPPE), 2009).

Chapter details	Candidate's contribution to research and authorship	Signatures of collaborating authors
<p>5. "Splitting the difference in global climate finance: Are fragmentation and legitimacy mutually exclusive?" (Jonathan Pickering, Frank Jotzo and Peter J. Wood)</p> <p>Under review in <i>Global Environmental Politics</i></p>	<p>FJ, JP and PJW developed the concept for a working paper on which they (with FJ as lead author) initially collaborated.² JP formulated the concept for the article based on portions of the working paper. JP led the authorship of the article, PJW conducted the quantitative analysis, and FJ made revisions to successive drafts of the article.</p>	 <hr/> <p>Frank Jotzo</p>  <hr/> <p>Peter J. Wood</p>
<p>6. "What should count as aid?" (Jonathan Pickering)</p> <p>Under review in <i>Review of International Studies</i></p>	<p>Sole author</p>	<p>N/A</p>

² Frank Jotzo, Jonathan Pickering, and Peter J. Wood, "Fulfilling Australia's international climate finance commitments: Which sources of financing are promising and how much could they raise?" *Centre for Climate Economics and Policy (CCEP) Working Paper 1115* (Canberra: The Australian National University, 2011).

Preface and acknowledgements

This thesis began with the confluence of two interests that demanded my attention after completing my Master's degree in 2006. The first was a personal interest in theories of global justice, sparked by reading works by Thomas Pogge and Thomas Nagel on the subject.³ The second was a professional interest in climate change policy that took hold when I joined a taskforce at the Australian Government's aid program which aimed to reduce greenhouse gas emissions from deforestation in developing countries. Among the many challenging issues the taskforce grappled with was the question of whether funding should be allocated primarily to the poorest forest communities or to those with the greatest capacity to curb rapid rates of forest clearing. This prompted me to think more broadly about the complementarities and tensions between addressing climate change and promoting global development.

The journey from these initial interests to the finished thesis has been a long and challenging but simultaneously enriching one, particularly as the focus of the thesis shifted from the forests of Central Kalimantan to the negotiating rooms in Copenhagen and beyond. Opting to write the thesis by publication provided an excellent opportunity to learn from colleagues about the art and craft of academic research, to gain a greater appreciation of the possibilities and challenges of writing for different scholarly audiences, and to engage in collaborative projects that brought different but complementary areas of expertise to bear on multi-faceted problems.

For helping me along the journey in many ways, I would first like to thank the chair of my supervisory panel, Christian Barry. In addition to our fruitful collaboration on the article reproduced in Chapter 2, Christian has dealt calmly with the droughts and floods of work that accompanied my thesis-writing process and has unfailingly responded to my drafts not only quickly but also with insightful comments. His

³ Thomas Pogge, *World poverty and human rights* (Cambridge: Polity Press, 2002); Thomas Nagel, "The problem of global justice", *Philosophy and Public Affairs* 33, no. 2 (2005).

finely honed ability to detect waffle improved every chapter considerably. Some of my early thinking on climate ethics was shaped by a stimulating reading group at ANU on ethics and international public policy that Christian and I jointly convened from 2009 to 2011.

I have also appreciated the support and advice I received from the other members of my supervisory panel: supervisors Frank Jotzo and Steve Vanderheiden and advisers Hayley Stevenson and Robin Davies. Two other chapters in the thesis involved constructive joint efforts with Frank and Steve. I have been fortunate to draw upon Frank's expertise in global and domestic climate policy at many points, and Frank patiently shepherded Chapter 5 to finalisation despite various hurdles along the way. Steve was not only a co-author on Chapter 3 but also a co-organiser of a workshop on climate governance at ANU in 2011 and co-editor of a special issue of *Ethics & International Affairs* containing articles emerging from the workshop. I am grateful to Hayley for introducing me to a range of new perspectives, including the literature on norms in International Relations and the work of the Earth System Governance research network. It has been a privilege to learn from Robin's experience in development and climate policy both before and since we arrived at ANU.

I would also like to thank my other co-authors Seumas Miller (particularly for supporting a research project early in my PhD that provided a documentary basis for chapter 3) and Peter Wood (particularly for the quantitative analysis that helped illuminate the arguments in Chapter 5). Common to all the co-authored pieces in the thesis is that they integrated a range of methods and ideas in a way that would not have been possible with a single-authored piece.

The Australian National University has been a highly conducive environment for grappling with climate change and its ethical dimensions. I began my PhD in the Centre for Applied Philosophy and Public Ethics (CAPPE) along with a large concentration of staff and students likewise interested in the relationships between ethics and public policy. Colleagues at the ANU School of Philosophy have supported my project in numerous ways and inspired me to greater rigour in my analysis. I would particularly like to thank current and former colleagues from

CAPPE and ANU: Geoff Brennan, Tom Campbell, Stephanie Collins, Luara Ferracioli, Clive Hamilton, Adam Henschke, Jon Herington, Robert Kirby, Holly Lawford-Smith, Alejandra Mancilla, Daniel Schuurman, Rosa Terlazzo, David Wiens and Scott Wisor. My intellectual debts to the writings of other colleagues—notably Thomas Pogge and Bob Goodin—are also evident in the thesis.

In addition, I have been fortunate to draw on the expertise of other colleagues around ANU who work on climate and development policy, including John Dryzek and Andrew Macintosh. I would particularly like to thank Stephen Howes, from whom I have learnt a great deal about international climate policy and economics through tutoring a postgraduate course on those issues.

I spent a very stimulating term as a visiting doctoral student at the Department of Politics and International Relations at the University of Oxford in 2012, with Simon Caney as my mentor. I received valuable feedback from Simon on work in progress, as well as from others I met during this period, including Dominic Roser, Clare Heyward, Lavanya Rajamani and Benito Müller. A memorable conversation with Henry Shue during an earlier visit to Oxford strengthened my confidence in the potential of philosophy to shape public policy for the better.

I have a much broader group of colleagues elsewhere to thank for discussions and comments that helped clarify my thinking and correct my misunderstandings about a wide range of theoretical and policy issues, including Christian Baatz, Jessica Brown, Brian Dawson, Peter Lawrence, Paul Mitchell, Smita Nakhooda, Charlie Parker, Timmons J. Roberts, Dirk Rübhelke and Martin Stadelmann. Further acknowledgements to individuals and conference participants for feedback on specific chapters are included at the beginning of each chapter.

This project would not have been possible without financial support provided by a range of institutions. Most importantly, my doctoral research was funded under an ANU Vice-Chancellor's Scholarship for Doctoral Study, which also enabled me to present my work overseas and observe negotiations at the landmark UN climate change conferences at Copenhagen in 2009 and Cancún in 2010. The ANU School of Philosophy also provided welcome support for my term in Oxford. In addition, I appreciated financial support from the Earth System Governance research network

to attend conferences in Berlin in 2010 and in Tokyo in 2013. In addition I would like to thank the staff of ANU's Kioloa Coastal Campus as well as our family friends David and Jennie Ford for two very productive writing retreats in idyllic settings. Finally, I have several notes of personal thanks. I have appreciated being able to commiserate with several good friends who have completed the PhD journey before me, particularly Paul Kildea, Laina Hall and Ross McKerracher; my primary-school friend and long-time sparring partner Brad Keyes has prompted me to think more deeply about the science of climate change; and my amigos Andrew Delavere-Pawley and Simon French have provided light relief and moral support in equal measures.

My parents, Elisabeth and Stuart Pickering, have continued to support my intellectual endeavours in many ways long since I flew the coop. Mum has been an ever-reliable source of moral support in addition to gladly helping with child-minding at various busy stages of writing, while dad has painstakingly read and commented on every page, often more than once, and his thoughts have helped to improve the thesis in innumerable ways. His passion for philosophy and the environment has likewise enriched my own.

My late grandfather, Arthur Reddel, the first doctor in our family, also took a keen interest in my education, and my fond memories of his kindness and dedication to others remain a source of inspiration.

My wife, Frances, has been unwavering in her support for this project through all of its various ups and downs, delays and breakthroughs. When we met in a first-year philosophy tutorial I could hardly have imagined that I would be completing a PhD in philosophy (after ranging across various disciplines that have found their way into the thesis in some way or other) some seventeen years later. Equally now I can't imagine how I could have got through this time without her companionship, thoughtfulness, patience and encouragement along the way. Frances and I (and our boys) have both appreciated greatly the support of her parents Frank and Elizabeth Anggadi during this period.

Our older son Will was on the way to two years of age when I began the PhD, and our younger son Louis is over two years old now that I am finishing it. While the task of juggling parenting and thesis commitments (as well as getting enough sleep) has been challenging at times, the joys of having the two boys in our lives have been a welcome reminder that there is much more to life than footnotes. I hope one day they may be interested enough to read “Dad’s big book”. By that time I also hope that the world will have responded more fairly and more effectively than at present to the challenges they will read about here.

Thesis abstract

The urgent need to address climate change poses a range of complex moral and practical concerns, not least because rising to the challenge will require cooperation among countries that differ greatly in their wealth, the extent of their contributions to the problem, and their vulnerability to environmental and economic shocks. This thesis by publication in the field of climate ethics aims to characterise a range of national responsibilities associated with acting on climate change (Part I), and to identify proposals for fulfilling those responsibilities through fair and feasible institutional arrangements (Part II). I aim not only to address substantive gaps in scholarly understanding of those responsibilities, but also to strengthen the ability of climate ethics to engage meaningfully with climate policy.

Chapter 2 addresses the question of whether wealthy countries owe a “climate debt” to poor countries. It finds that even if climate debt (suitably interpreted) may provide a coherent and morally plausible concept, its political value as a discursive frame that can provide a basis for cooperation is limited.

Chapter 3 investigates the role that equity may play in negotiations on a long-term climate change agreement. It argues that developed and developing countries may reach a “principled bargain” if both converge on a way of differentiating their responsibilities that places less emphasis on a rigid dichotomy between the two groups and more emphasis on objective criteria relating to their contribution to the problem and capacity to address it.

Chapter 4 explores a question largely overlooked in climate ethics, namely whether wealthy countries owe compensation to those who are adversely affected by the climate policies which they enact. I find that enacting countries have responsibilities to compensate both domestic and foreign citizens who would suffer disproportionate losses from the effects of policies.

Chapter 5 assesses whether wealthy countries may legitimately adopt unilateral (or “fragmented”) rather than multilaterally coordinated approaches to raising climate finance for developing countries. It finds that coordinated target-setting,

effort-sharing and oversight arrangements are essential, but that a mix of unilateral and coordinated approaches to raising funds will be necessary for securing legitimacy.

In Chapter 6, through addressing the broader question of what should count as official aid, I consider whether wealthy countries may draw on aid budgets to support developing countries' efforts to address climate change. I find that the current definition of official aid should be retained but supplemented by specified exclusions from eligibility in order to preserve the aid regime's integrity. Nevertheless, some climate finance may justifiably be counted as aid provided that concerns relating to the diversion of aid funding are addressed.

In addressing these research questions, the thesis seeks not only to make original theoretical contributions to climate ethics but also to strengthen broader scholarly understanding of the ways in which ethics and international public policy may inform one another, particularly by highlighting the role of framing considerations (Chapter 2), feasibility considerations (Chapter 3), and the ways in which principles of fairness and legitimacy map onto institutional functions (Chapters 4, 5 and 6).

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Abbreviations

AGF	UN High-Level Advisory Group on Climate Change Financing
AWG-KP	Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (UNFCCC)
AWG-LCA	Ad Hoc Working Group on Long-term Cooperative Action under the Convention (UNFCCC)
CBDR&RC	Common but differentiated responsibilities and respective capabilities
CDM	Clean Development Mechanism
CO ₂	Carbon dioxide
COP	Conference of the Parties to the UNFCCC
GCF	Green Climate Fund
GHG	Greenhouse gas
ICAO	International Civil Aviation Organisation
IMO	International Maritime Organisation
IO	International organisation
IPCC	Intergovernmental Panel on Climate Change
MDGs	Millennium Development Goals
OECD	Organisation for Economic Co-operation and Development
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organisation
WTO	World Trade Organisation

Note on presentation: thesis by publication

This work is presented as a thesis by publication in accordance with the Australian National University's guidelines for submitting PhD theses. Under ANU guidelines, the main chapters of a thesis by publication must have been either published or submitted for publication (and not rejected by the time of thesis submission), typically to international peer-reviewed journals. The thesis by publication option gives students an incentive to gain experience with writing for academic journals during their graduate studies, to enrich their work through peer review feedback, and to have a track record of publications by the time they finish their studies.

I have sought to ensure that each article is accessible to a broad academic audience and forms part of a coherent overall project. At the same time, each article has been tailored in various ways to the journal's audience, including through variations in the style of argumentation as well as in the range of concepts and bodies of literature that I draw on.

The text of chapters previously published in journals is identical to the published versions, with the following minor adjustments introduced for ease of reading and navigating the thesis:

- Each chapter presents in the same order the abstract, acknowledgements and main text along with a brief introductory note added for presentation in the thesis;
- The bibliographical and typographical conventions are standardised throughout (including use of footnotes in the Chicago A style, rather than endnotes or in-text citations);
- Where published chapters refer to other parts of the thesis, I have included cross-references in square brackets;
- I have standardised the spelling as far as possible to Australian English;
- Web links have been checked to ensure they are current at the time of submission.

Chapter 1. Introduction

The two greatest problems of our time—overcoming poverty in the developing world and combating climate change—are inextricably linked. Failure to tackle one will undermine efforts to deal with the other: ignoring climate change would result in an increasingly hostile environment for development and poverty reduction, but to try to deal with climate change by shackling growth and development would damage, probably fatally, the cooperation between developed and developing countries that is vital to success.¹

We find ourselves at a critical juncture and the situation is such that even the most ambitious emissions reductions by developed countries, who should have been taking the lead in combatting climate change in the past 2 decades, will not be enough to avert the crisis. It is now too late, too late to talk about the world being able to rely on [developed] countries to solve the climate crisis. We have entered a new era that demands global solidarity in order to fight climate change and ensure that pursuit of sustainable human development remains at the fore of the global community's efforts.²

1.1 The challenge of fairness in global climate policy

Recent decades have seen considerable progress in economic and social development across much of the world's population. Nevertheless, the goal of relieving entrenched poverty has proven elusive to date.³ At the same time, ongoing failure to tackle climate change adequately is placing existing development gains

¹ Nicholas Stern, *A blueprint for a safer planet: How to manage climate change and create a new era of progress and prosperity* (London: Bodley Head, 2009), 8.

² Philippines negotiator Yeb Sano in a speech to the UN climate change conference in Warsaw in November 2013. Sano spoke in the aftermath of Typhoon Haiyan, which had caused widespread devastation in the Philippines (Yeb Sano, "It's time to stop this madness" – Philippines plea at UN climate talks, *Responding to Climate Change*, 13 November 2013, accessed 20 December 2013. <http://www.rtcc.org/2013/11/11/its-time-to-stop-this-madness-philippines-plea-at-un-climate-talks/#sthash.AYtmvjQ2.dpuf>).

³ Andy Sumner, "Where do the poor live?", *World Development* 40, no. 5 (2012).

under increasing threat.⁴ Both climate change and development are urgent practical problems, and the challenge of addressing them together also raises a range of complex moral concerns. Even if we lived in a world where incomes were roughly equal, it would be necessary to face the question of how to account for differences in responsibility for causing climate change and how to motivate countries to act quickly enough and to do their fair share in reducing global greenhouse gas emissions and adapting to climatic impacts.

The task of sharing costs fairly becomes all the more complex once we take into account the fact that global efforts to address climate change play out against the backdrop of massive and ongoing global economic inequalities. Although developing countries' share of global greenhouse gas emissions is growing rapidly, they have contributed considerably less to the problem of climate change to date but will be among the hardest hit by rising temperatures.⁵

There are widely acknowledged complementarities between promoting development and building resilience to the impacts of climate change.⁶ Nevertheless, in a world of scarce resources we cannot evade the question of how to address the tensions between addressing persistent poverty today and avoiding potential climatic catastrophe in future. The difficulty of addressing these moral concerns is further complicated by the fact that the international regimes for climate change and development remain largely compartmentalised and compete with one another for funding resources.

Despite the differences between the economic circumstances and world views of developed and developing countries, they all share the same global climate system and must cooperate if they are to protect it. To be workable in practice, international cooperation will require forging a set of institutions that both poor

⁴ World Bank, "Turn down the heat: Why a 4°C warmer world must be avoided" *A report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics* (Washington, DC: World Bank, 2012), ix.

⁵ See section 1.4.1 below.

⁶ See section 1.4.2; Thomas Pogge, "Poverty, climate change, and overpopulation", *Georgia Journal of International and Comparative Law* 38 (2010); and Simon Caney, "Addressing poverty and climate change: The varieties of social engagement", *Ethics & International Affairs* 26, no. 2 (2012).

and wealthy countries perceive to be fair.⁷ In order to do so, it will be necessary to bridge stark differences among countries over what constitutes a fair response.

1.2 Knowledge gaps

Much has been written about aspects of the challenges mentioned above. Climate change has attracted a diverse range of scholarly attention in what could broadly be called normative theory, ranging from more abstract analysis in political philosophy and political theory through to applied ethics. For brevity I will refer to this body of work as “climate ethics”.⁸ Research on climate ethics has emerged alongside a much larger literature on climate policy. A sizeable subset of the ethical and policy literature examines intersections between climate change and development.⁹

One of the most stimulating yet challenging aspects of research on climate change as a whole is the level of interdisciplinary analysis involved in addressing the problem. A substantial degree of interdisciplinary collaboration has already taken place, particularly at the intersection between climate science, economics and policy. Nevertheless, substantial knowledge gaps remain, not least at the intersection between climate ethics and climate policy.¹⁰ While the ethics and policy literatures have cross-fertilised to some extent, their potential for greater integration and mutual reinforcement remains unfulfilled. Andrew Light, whose work has spanned both scholarly research in climate ethics and involvement in US and international climate policy, has observed, “most work in climate ethics still trails the policy discussion rather than directly participates in it”.¹¹ Conversely,

⁷ See section 1.8 below.

⁸ Compare Stephen Gardiner et al., eds., *Climate ethics: Essential readings* (Oxford: Oxford University Press, 2010), which is a collection of papers spanning these disciplines.

⁹ As reflected in the output of journals such as *Climate Policy* and *Climate and Development*.

¹⁰ Reports of the Intergovernmental Panel on Climate Change (IPCC), for example, have largely focused on the science-economics-policy interface, although some chapters have included discussion of ethical issues. See, for example, K. Halsnæs et al., “Framing issues” in *Climate change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, UK and New York, NY: Cambridge University Press, 2007), Section 2.6. Forthcoming volumes of the Fifth Assessment Report of the IPCC will include an expanded treatment of ethical issues.

¹¹ Andrew Light, “Climate ethics for climate action” in *Environmental ethics: What really matters? What really works?*, ed. David Schmitz and Elizabeth Willott (Oxford: Oxford University Press, 2011),

much existing economic and policy analysis of climate change incorporates significant but often not critically examined assumptions about the appropriate goals of climate policy and the value of different distributive schemes, and greater normative rigour and transparency would strengthen the findings of such analysis.¹²

These gaps are symptomatic of a broader and as yet unresolved challenge regarding the relationship between philosophy and global public policy. In recent decades scholars have made considerable progress in articulating the relationship between the two. On the one hand, political philosophy has increasingly sought to take account of institutional feasibility considerations at the global level.¹³ On the other hand, constructivist research in the field of International Relations has improved our understanding of the way in which norms shape global cooperation and the role of individual actors within it.¹⁴ Nevertheless, these two strands of scholarship have largely flourished in parallel, and there remains considerably greater scope for non-ideal theory and research on norms in International Relations to inform one another.

1.3 Aims and original contribution of the thesis

This leads us to the overarching research question of the thesis: how should we characterise national responsibilities for responding to climate change, and design institutions for fulfilling them, while taking into account global economic inequalities? Providing a comprehensive account of fairness across all aspects of climate policy would be beyond the scope of a single thesis, but my aim in this collection of articles is to answer this question as it applies to several crucial elements of the global climate change regime. In doing so, the thesis aims to make original contributions both by addressing substantive questions that may guide

559. See also Sonja Klinsky and Hadi Dowlatabadi, "Conceptualizations of justice in climate policy", *Climate Policy* 9 (2009): 88.

¹² Compare Cameron Hepburn and Nicholas Stern, "The global deal on climate change" in *The economics and politics of climate change*, ed. Dieter Helm and Cameron Hepburn (Oxford: Oxford University Press, 2009), 38-39.

¹³ See section 1.6.3 below.

¹⁴ See section 1.8 below.

policy-making and by generating theoretical innovations that may inform climate ethics and broader analysis of the ethical dimensions of global public policy.

Substantively, the thesis aims to clarify the responsibilities of developed and developing countries within the international climate change regime and at its intersection with the global development finance regime, with a particular focus on the responsibilities of the world's wealthy citizens towards the poor. Questions cutting across several chapters include how to characterise or frame developed countries' responsibilities (Chapters 2, 3, 4 and 6); how responsibilities should be distributed among developed countries (Chapters 3, 4 and 5); and what policy instruments are best suited for fulfilling those responsibilities (Chapters 4, 5 and 6). Table 1.1 provides an outline of the research questions addressed in specific chapters, along with summaries of the substantive findings and theoretical contributions of each chapter.

Table 1.1. Outline of research questions and original contributions

Research questions by chapter	Substantive findings	Theoretical innovations
2. Do wealthy countries owe a “climate debt” to poor countries?	Even if climate debt, suitably interpreted, provides a coherent and morally plausible concept, its political value is limited	Applying a theory of rhetoric to provide a basis for distinguishing the political value of a concept from its moral value
3. How can global climate negotiations bridge the impasse between developed and developing countries on sharing the global mitigation effort fairly?	Developed and developing countries may reach a “principled bargain” on a future climate agreement that satisfies criteria of fairness and feasibility if the agreement moves closer to “national” rather than “categorical” differentiation of national commitments	Articulating a set of criteria that enable climate ethics to take account of feasibility considerations more systematically in the formulation or evaluation of proposals for institutionalising moral principles
4. Do wealthy countries owe compensation to domestic and foreign citizens for the adverse effects of the climate policies that they enact?	Countries enacting climate change policies have responsibilities to compensate those who would suffer disproportionate losses from those policies. Those responsibilities extend to affected parties beyond national borders due to duties of fairness arising from countries’ common participation in the global climate regime	Expanding the substantive scope of moral responsibilities related to climate change Extending theories of governmental compensation to provide a new way of thinking about the responsibilities of the wealthy for the transnational effects of their policies

Research questions by chapter	Substantive findings	Theoretical innovations
5. In raising climate finance for developing countries, to what extent may wealthy countries legitimately adopt unilateral (or “fragmented”) rather than multilaterally coordinated approaches?	Coordinated target-setting, effort-sharing and oversight arrangements for climate finance are essential, but a mix of unilateral and coordinated approaches to raising funds will be necessary for securing legitimacy	Articulating the role of fragmented governance in enhancing or undermining the legitimacy of global institutions
6. What should count as official aid? May wealthy countries draw on aid budgets in order to support developing countries’ efforts to address climate change?	Despite its ability to withstand some common criticisms, the current definition of official aid should be retained but supplemented by specified exemptions from aid eligibility in order to preserve the regime’s integrity. Nevertheless, some climate finance may justifiably be counted as aid as long as concerns relating to the diversion of aid funding are addressed	Developing a practice-based approach for defining institutional terms that codify moral responsibilities across national borders

In addressing these research questions, the thesis seeks to make original theoretical contributions to climate ethics. In particular, I seek to improve scholarly understanding of the way in which moral principles and political practice may relate to one another by highlighting the role of framing considerations (Chapter 2), feasibility considerations (Chapter 3), and the ways in which moral principles of fairness and legitimacy may map onto institutional functions at the global level (Chapters 4, 5 and 6).

Most of the chapters take as their starting point subjects that have received some attention in the theoretical literature, but develop new ways of looking at them. National mitigation commitments (Chapter 3) are perhaps one of the most widely discussed issues in climate policy, while climate debt (Chapter 2) and responsibilities to provide climate finance (Chapter 5) have attracted relatively less attention to date. The other chapters represent forays into territory that remains largely unexplored in normative theory. Thus Chapter 4 focuses on expanding the range of moral responsibilities to address climate change by highlighting the imperative of addressing the impacts of climate policies. Chapter 6 discusses an

issue that has received limited attention in normative theory—the relationship between climate finance and aid—but sets it in the context of a broader question that has remained almost wholly overlooked in normative theory (although widely discussed in policy debate), namely what should count as aid.

Together the chapters seek not only to inform climate ethics but also to shed light on broader theories of global justice. In particular, Chapter 4 extends theories of government compensation—which traditionally have focused on domestic cases—to a range of other ways in which domestic policymaking may result in adverse impacts on other countries, ranging from regulating tobacco and other health risks to product safety, labour conditions and tax evasion. Chapter 5 may inform assessments of the legitimacy of a broader range of international institutions and their associated policy functions. Chapter 6 sets out criteria for defining institutional terms associated with global moral responsibilities. While formulated to apply to the context of aid, the criteria may also apply to questions such as what should count as human rights and who should count as a refugee. Finally, Chapters 4 and 6 may inform debates about the extent to which elements of global justice may (or must) be analysed individually or as part of a more comprehensive concept of global justice.

While each chapter draws on aspects of theory specifically relevant to the question at hand, a common methodological concern runs through the thesis, namely that producing normative recommendations that are capable of guiding action at the global level requires an appreciation of the political, economic and institutional constraints and opportunities facing international institutions and the actors that participate in them.¹⁵ Crucially, a contextual approach of this kind requires understanding different conceptions of fairness held by developed and developing

¹⁵ I adopt the definition of institutions as “the rules of the game in society or, more formally, the humanly devised constraints that shape interaction” (Douglass North, *Institutions, institutional change and economic performance* (Cambridge: Cambridge University Press, 1990), 3). Institutions may encompass norms, conventions, principles and laws (see section 1.8). I adopt the definition of an organisation as a “formal structure of interlocking roles” embodied by persons occupying those roles (Seumas Miller, *Social action: A teleological account* (Cambridge, UK: Cambridge University Press, 2001), 28). Institutions may represent a type of organisation and vice versa, but the overlap between the two is not complete.

countries. A better understanding of these conceptions may not only help us to identify areas of common ground that could provide a basis for agreements that are widely perceived to be fair, but also inform our evaluation of the moral contours of a given policy context.¹⁶

In its disciplinary orientation, the thesis is best characterised as a set of essays in the field of climate ethics. The evaluative methods I adopt draw primarily on works of political theory and political philosophy on climate change, but I also draw on broader research in political philosophy that addresses concerns of global justice as well as the relationship between moral principles and public policy. In addition, my emphasis on feasibility considerations has led me to draw widely on climate change research in other disciplines, particularly economics and International Relations, and to a lesser extent international law.

In keeping with the contextual approach introduced above, I turn next to an account of global climate change and the evolution of international climate policy in order to identify key parameters for analysis. Subsequent sections of the Introduction elaborate upon the overall methodology and key concepts and principles underpinning later chapters, particularly in order to justify the ways in which I employ normative theorising to clarify policy issues and develop proposals for reform. Rather than providing a standalone literature review, subsequent sections of the Introduction integrate an overview of the literature on climate ethics with an explanation of how the thesis is situated in relation to that literature. Subsequent chapters review in greater detail literature relevant to chapter-specific research questions.

1.4 Climate change: key concepts and background

1.4.1 Climate science: greenhouse gas emissions, climate change and associated impacts

The physical basis for human-induced (or “anthropogenic”) climate change provides a number of important parameters for normative analysis of (i) the distributive

¹⁶ For further discussion of this issue, see sections 1.6.3 and 1.8.3.

dimensions of the problem and (ii) the intersection between climate and development concerns. Natural and human-induced greenhouse gas (GHG) emissions affect the earth's climate system due to their tendency to trap heat from the sun rather than release it back into space. Since the mid-nineteenth century, the Earth's atmosphere has warmed by around 0.8 °C, principally due to human activity.¹⁷ While some GHGs (such as methane) have relatively short-lived warming effects, others (notably CO₂) have a long but variable residence time in the atmosphere.¹⁸ As these gases accumulate in the atmosphere, their aggregate effect on warming increases, and the rate of temperature rise is related in a roughly linear fashion to the accumulation of CO₂.¹⁹

Atmospheric concentrations of CO₂ have increased by around 40 per cent since pre-industrial levels, and are currently at their highest level in the past 800,000 years.²⁰ In the first decade of the twenty-first century, emissions rose on average by around three per cent each year.²¹ If current emissions trends continue, temperatures are likely to rise by around 2.8 °C to 4.8 °C compared to pre-industrial levels by the end of the present century.²²

The fact that temperature rise is linked to cumulative emissions of greenhouse gases has two important implications for the intergenerational scope of the climate change problem. First, emissions produced in previous generations may exert ongoing effects on the present generation. Second, while acting to restrain some

¹⁷ IPCC, "Summary for policymakers" in *Climate change 2013: The physical science basis. Contribution of Working Group I to the Fifth Assessment report of the Intergovernmental Panel on Climate Change*, ed. Thomas F. Stocker, et al. (Cambridge, UK and New York, NY, USA: Cambridge University Press, 2013), 3, 15. Rising CO₂ emissions have also resulted in warming of the ocean, and higher atmospheric CO₂ concentrations also produce other adverse effects apart from global warming, including ocean acidification (ibid., 6, 10.).

¹⁸ Stephen M. Smith et al., "Equivalence of greenhouse-gas emissions for peak temperature limits", *Nature Climate Change* 2, no. 7 (2012).

¹⁹ Myles R. Allen et al., "Warming caused by cumulative carbon emissions towards the trillionth tonne", *Nature* 458 (2009); M Meinshausen et al., "Greenhouse gas emission targets for limiting global warming to 2°C", *Nature* 458 (2009); IPCC, "Summary for policymakers", 25.

²⁰ IPCC, "Summary for policymakers", 9.

²¹ Jos G.J. Olivier et al., "Trends in global CO₂ emissions: 2013 report" (The Hague: PBL Netherlands Environmental Assessment Agency and The European Union, 2013), 8.

²² IPCC, "Summary for policymakers", 18.

short-lived GHGs may produce some shorter-term benefits for temperature rise, how much the present generation acts to restrain its overall emissions will primarily constrain long-term rather than short-term temperature rise.²³

In addition to intergenerational implications, the causes and impacts of climate change have far-reaching international implications. Industrialised countries are largely responsible for the greenhouse gas emissions that have caused climate change to date.²⁴ However, developing countries account for a growing share of current and cumulative global emissions. Whereas in 1990 developing countries accounted for around one-third of annual global CO₂ emissions, in 2012 they accounted for almost 60 per cent.²⁵ Nevertheless, emissions per person vary widely between developed and developing countries.²⁶

Although climate change may yield beneficial effects for some regions in the short term—particularly those in colder regions—its net effects over the longer term are likely to be negative for all regions, particularly once the risk of catastrophic impacts is taken into account.²⁷ However, the types of impacts of climate change will vary considerably across countries, ranging from sea level rise to changes in extreme weather events and rainfall patterns.²⁸ A recent World Bank report notes:

No nation will be immune to the impacts of climate change. However, the distribution of impacts is likely to be inherently unequal and tilted against many of the world's

²³ Smith et al., "Equivalence of greenhouse-gas emissions for peak temperature limits".

²⁴ In keeping with prevailing practice under the climate regime, references to "developed" and "developing" countries will generally refer to Annex I and non-Annex I countries under the United Nations Framework Convention on Climate Change (UNFCCC). Annex I is composed of countries that were OECD members at the time of drafting (Annex II countries), as well as "Economies in Transition" (primarily members of the former Soviet Union). In discussions of climate finance, "developed" countries refer specifically to Annex II members. The Annexes do not fully reflect objective differences in income and emissions (see Chapter 3, section 3.4.1). See generally Joanna Depledge, "The road less travelled: Difficulties in moving between annexes in the climate change regime", *Climate Policy* 9 (2009).

²⁵ Olivier et al., "Trends in global CO₂ emissions: 2013 report", 26.

²⁶ At the upper extreme, CO₂ emissions in 2012 were around 19 tonnes per person in Australia, while at the lower extreme India's emissions were around 2 tonnes per person. China and the EU were comparable at around 7 tonnes per person (ibid., 18.).

²⁷ World Bank, "Turn down the heat: Why a 4°C warmer world must be avoided", Chapter 7.

²⁸ IPCC, "Summary for policymakers", 17-24.

poorest regions, which have the least economic, institutional, scientific, and technical capacity to cope and adapt.²⁹

Impacts on developing countries may threaten a range of basic human rights, including rights to life (through casualties from cyclones and floods), water (through droughts), health (through infectious diseases exacerbated by higher temperatures) and food (through declining crop yields).³⁰

1.4.2 Responding to climate change: mitigation, adaptation and addressing loss and damage

1.4.2.1 Categories of action

Countries may mount a variety of responses to climate change. Climate policy and ethics typically draw a distinction between *mitigation* (addressing the causes of climate change) and *adaptation* (adjusting to the impacts of climate change).³¹ In addition, even if mitigation and adaptation strategies are implemented, some “residual damage” or “loss and damage” will still occur as a result of climate change.³² This category of action is sometimes subsumed under adaptation in negotiations but at other times treated as a third “pillar” of climate change policy.

²⁹ World Bank, "Turn down the heat: Why a 4°C warmer world must be avoided", xiii. See also IPCC, *Climate change 2007: Synthesis report* (Cambridge, UK: Cambridge University Press, 2007), 65; Hans-Martin Füssel, "How inequitable is the global distribution of responsibility, capability, and vulnerability to climate change: A comprehensive indicator-based assessment", *Global Environmental Change* 20, no. 4 (2010).

³⁰ Simon Caney, "Climate change, human rights and moral thresholds" in *Human rights and climate change*, ed. Stephen Humphreys (Cambridge: Cambridge University Press, 2010); IPCC, *Climate change 2007: Synthesis report*.

³¹ The IPCC defines mitigation as “An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases”, and adaptation as “Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (R.J.T. Klein et al., "Inter-relationships between adaptation and mitigation" in *Climate Change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. M.L. Parry, et al. (Cambridge, UK: Cambridge University Press, 2007), 750).

³² Nicholas Stern, *The economics of climate change: The Stern Review* (Cambridge, UK; New York: Cambridge University Press, 2007):404. Huq et al. distinguish between reversible damage and permanent loss: Saleemul Huq, Erin Roberts, and Adrian Fenton, "Loss and damage", *Nature Climate Change* 3, no. 11 (2013): 948.

Some authors refer to this category as “compensation for residual damage”,³³ but since it is possible to envisage non-compensatory means of responding to damage resulting from climate change (such as self-help or reconciliation³⁴), I refer to this category more broadly as addressing loss and damage (the latter term being more common in climate negotiations than residual damage).³⁵

1.4.2.2 Variations in the distribution of costs and benefits

Each type of action differs according to the extent, timing and spatial distribution of its costs and benefits, and the degree of coordination required to achieve effective action. Mitigation is widely considered to be the preferable response, as it addresses the cause of the problem rather than its symptoms. However, if mitigation is to be effective in avoiding dangerous climate change,³⁶ it will require a worldwide effort encompassing all countries that are major sources of emissions, notably among them large developing economies such as China, India, Brazil, South Africa and Indonesia. Particularly since mitigation requires a thoroughgoing transformation of industrial production, which is presently heavily reliant on fossil fuels, it will be costly. The Stern Review, for example, estimated that stabilising global concentrations of GHGs at safe levels would cost around one per cent of global Gross Domestic Product (GDP), whereas failing to act would result in a permanent loss of welfare of around five to twenty per cent.³⁷

Moreover, due to the physical dynamics outlined above, mitigation will primarily benefit future generations in subsequent centuries, even though (as I discuss next)

³³ Richard S. J. Tol and Roda Verheyen, "State responsibility and compensation for climate change damages—a legal and economic assessment", *Energy Policy* 32, no. 9 (2004): 1113.

³⁴ Stephen M. Gardiner, *A perfect moral storm: The ethical tragedy of climate change* (New York, NY: Oxford University Press, 2011), 427.

³⁵ There may also be some losses that could never be fully compensated for, particularly those relating to the irreversible loss of biodiversity or ecosystems: see Andrew Dobson, *Justice and the environment: Conceptions of environmental sustainability and dimensions of social justice* (Oxford: Oxford University Press, 1998)).

³⁶ Dangerous climate change is often associated with warming above 2°C (the temperature limit within which countries committed to remain under the Copenhagen Accord), but lower levels of warming could result in dangerous impacts in some regions. Compare Darrel Moellendorf, "A normative account of dangerous climate change", *Climatic change* 108, no. 1 (2011).

³⁷ Stern, *The economics of climate change*, x, xii.

it may generate some shorter-term benefits.³⁸ In that respect, mitigation efforts must compete with other funding priorities aimed at benefiting the present generation (notably domestic and international development finance).

A further challenge is that mitigation by one country will primarily yield worldwide benefits due to the mixing of GHGs in the atmosphere. Mitigation activities may also produce indirect benefits that are more localised, for example lower emissions of substances that produce local pollution, or employment in low-carbon technology industries.³⁹ However, the primarily global scale of benefits gives rise to a collective action problem, whereby countries have an incentive to free-ride on the efforts of others, which would lead to a shortfall in the aggregate effort required to solve the problem. For this reason, international cooperation is critical to achieving adequate mitigation.⁴⁰

Certain types of investments in adaptation may also provide supra-national and global benefits, for example the development of drought-resistant crops or other adaptive technologies. However, since the impacts of climate change vary depending on geographic location and other local circumstances, the adaptation measures required to address impacts will need to vary accordingly. As a result, most adaptation measures will produce primarily local benefits.⁴¹ Many adaptation measures are closely associated with measures that will promote human development, since efforts to reduce vulnerability to climate change—including strengthening social safety nets—will often help reduce vulnerability to other shocks.⁴² As a result, many of the indirect benefits of adaptation will be development-related, such that Nicholas Stern has described adaptation as “development in a more hostile climate”.⁴³ For this reason alone, adaptation may

³⁸ Ross Garnaut, *The Garnaut Climate Change Review: Final report* (Melbourne: Cambridge University Press, 2008), 249.

³⁹ See Chapter 4, section 4.2.2.

⁴⁰ See Chapter 2, section 3.2.

⁴¹ Jonathan Pickering and Dirk Rübelke, "International cooperation on adaptation to climate change" in *Routledge handbook of the economics of climate change adaptation*, ed. Anil Markandya, Ibon Galarraga, and Elisa Sainz de Murieta (Abingdon: Routledge, forthcoming (2014)).

⁴² See Chapter 4, section 4.4.4.

⁴³ Stern, *The economics of climate change*, 68.

yield short-term (or “no-regrets”) development benefits even if the nature and scale of climatic impacts remains uncertain.⁴⁴

1.5 The evolution of global climate policy

Over the past two decades governments and private actors have established a range of national and global institutions and policies for addressing climate change. At the global level, the United Nations Framework Convention on Climate Change (UNFCCC; or “the climate convention”) adopted in 1992 is the founding treaty for global climate change cooperation.⁴⁵ Cooperative efforts have not resulted in a single, tightly coordinated global regime under the UNFCCC, but rather what Keohane and Victor refer to as a “regime complex” encompassing a range of more or less connected regimes.⁴⁶ As the UNFCCC continues to play an important role in shaping international cooperation, this thesis focuses mainly on UNFCCC-related negotiations. The thesis deals primarily with key issues in the UNFCCC negotiations since the Copenhagen Accord (2009; discussed below), while drawing on analysis of previous negotiations.

1.5.1 The changing character of cooperation across the development divide

Global cooperation on climate change emerged against the backdrop of earlier negotiations on worldwide environmental problems as well as ongoing rifts between developed and developing countries across a range of multilateral institutions.⁴⁷ Earlier international declarations had portrayed global environmental protection as an issue that, while being of common concern to some extent, was a higher priority for wealthy countries. By contrast, developing countries emphasised

⁴⁴ Stéphane Hallegatte, “Strategies to adapt to an uncertain climate change”, *Global Environmental Change* 19, no. 2 (2009).

⁴⁵ UNFCCC, “United Nations Framework Convention on Climate Change” (1992).

⁴⁶ Robert O. Keohane and David G. Victor, “The regime complex for climate change”, *Perspectives on Politics* 9, no. 1 (2011). While recognising this insight, for brevity I generally refer to the “climate regime”.

⁴⁷ See generally Joyeeta Gupta, “A history of international climate change policy”, *Wiley Interdisciplinary Reviews: Climate Change* 1, no. 5 (2010).

that their overriding priority was to reduce poverty and promote national development.⁴⁸

In many ways the UNFCCC embeds these earlier concerns. The climate convention's "ultimate objective" is "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".⁴⁹ Critical to guiding cooperation towards this objective are the principles set out in Article 3:

1. The Parties should protect the climate system for the benefit of present and future generations of humankind, *on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities*. Accordingly, the *developed country Parties should take the lead in combating climate change and the adverse effects thereof*.

2. The specific needs and special circumstances of *developing country Parties*, especially those that are particularly *vulnerable* to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a *disproportionate or abnormal burden* under the Convention, should be given full consideration. [...]

4. The *Parties have a right to, and should, promote sustainable development*. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that *economic development is essential for adopting measures to address climate change*.⁵⁰

As I outline in section 1.8.3 below and in subsequent chapters, the principle of "common but differentiated responsibilities and respective capabilities" (CBDR&RC) has played an important but contested part in shaping the roles of developing and

⁴⁸ Peter S. Thacher, "The role of the United Nations" in *The international politics of the environment: Actors, interests, and institutions*, ed. Andrew Hurrell and Benedict Kingsbury (Oxford: Clarendon Press, 1992), 196; Lynton Keith Caldwell, *International environmental policy: From the twentieth to the twenty-first century*, 3rd ed., [rev. And updated with the assistance of paul stanley weiland] (Durham, NC: Duke University Press, 1996), 74.

⁴⁹ UNFCCC, Article 2.

⁵⁰ *Ibid.*, Article 3 (emphasis added).

developed countries in climate policy. The rigidly drawn distinction between developed and developing countries reflected in the convention has likewise had a strong influence on the dynamics of negotiations, although countries have increasingly voiced concerns over whether current country groupings adequately reflect the principle of CBDR&RC.⁵¹

As outlined in Chapter 3, under the 1997 Kyoto Protocol only developed countries adopted binding mitigation targets. Nevertheless, the changing distribution of global emissions has prompted a reconfiguration of the role of developing vis-à-vis developed countries over the past decade. Notably, at the Conference of the Parties (COP) to the UNFCCC in 2009, developing countries pledged under the Copenhagen Accord to adopt “nationally appropriate mitigation actions” alongside the “commitments” of developed countries for the period to 2020.⁵² National pledges were formalised the following year under the Cancún Agreements.⁵³ The aggregate mitigation effort resulting from these pledges is widely considered to be inadequate for ensuring that by 2020 parties will be on track to meet their agreed goal of limiting temperature rise to 2 °C.⁵⁴ Parties to the climate convention are currently engaged in negotiations for a new agreement to operate from 2020 onwards. As discussed in Chapter 3, the mandate for negotiating the new agreement (the “Durban Platform for Enhanced Action”) leaves many questions unresolved about the future roles of developed and developing countries.

1.5.2 Climate change finance

Although the sharing of mitigation efforts has justifiably taken centre stage during much of the climate convention’s history, it has increasingly shared the stage with deliberations over international financial flows to support mitigation and adaptation

⁵¹ See especially Chapter 3 (section 3.4.1), as well as Chapters 2 (section 2.4.3) and 5 (section 5.4).

⁵² UNFCCC, "Copenhagen Accord" (2009).

⁵³ UNFCCC. "The Cancún Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention." 2011.

⁵⁴ UNEP, "The emissions gap report 2013: A UNEP synthesis report" (United Nations Environment Programme, 2013).

in developing countries (“climate finance”).⁵⁵ Under the climate convention, developed countries made broad pledges to support developing countries in addressing climate change.⁵⁶ However, until very recently those pledges have not been backed up with substantial resources. A watershed occurred at Copenhagen in 2009 when developed countries committed to providing a figure approaching US\$30 billion between 2010 and 2012 (frequently referred to as “fast-start finance”), scaling up to US\$100 billion a year by 2020 (medium-term finance).⁵⁷ Romani and Stern have observed how the Copenhagen financing commitments formed part of a wider bargain between developed and developing countries

[...] with developing countries signing up to it on the back of the financial commitment of developed countries, and developed countries on the back of the pledges made by developing countries. These transfers were interpreted (at least by developing countries) as being linked to equity: without some attention to equity an agreement would have been very difficult.⁵⁸

The idea that considerations of equity may have driven financing commitments derives some support from the fact that wealthy countries committed funding not only for mitigation (which benefits contributors as well as recipients of funding) but also for adaptation (which primarily benefits recipients).⁵⁹ The very fact that adaptation finance appears more altruistic may generate greater trust on the part of developing countries and in turn encourage them to adopt more ambitious mitigation actions.⁶⁰

⁵⁵ See Chapter 5, section 5.2.2.

⁵⁶ UNFCCC, Articles 4.3 and 4.4. See also Chapter 6, section 6.5.1; and Pickering and Rübhelke, "International cooperation on adaptation to climate change".

⁵⁷ Copenhagen Accord, Paragraph 8.

⁵⁸ Mattia Romani and Nicholas Stern, "Sources of finance for climate action: Principles and options for implementation mechanisms in this decade" in *International climate finance*, ed. Erik Haites (London: Routledge, 2013), 117.

⁵⁹ Dirk T. G. Rübhelke, "International support of climate change policies in developing countries: Strategic, moral and fairness aspects", *Ecological Economics* 70, no. 8 (2011).

⁶⁰ Ibid.

The Copenhagen financing commitments, while substantial compared with overall global aid levels of US\$134 billion in 2011, fall well short of countries' climate financing needs.⁶¹ In addition, developing countries have expressed concern that developed countries may divert funding from existing development priorities by using their aid budgets to fulfil climate finance commitments (as most contributors did during the fast-start finance period).⁶² Debates about the relationship between climate finance and aid have in turn filtered into debates outside the climate change regime on the nature of future international development goals to succeed the UN Millennium Development Goals (MDGs), which expire in 2015.⁶³

1.6 Methodology

1.6.1 Approaches to evaluation in climate ethics

From the late 1980s, coinciding with the emergence of broader policy interest in climate change, a number of writers in developing and developed countries began to engage with the ethical dimensions of climate change.⁶⁴ Since the late 1990s a substantial and varied body of research relating to the ethics of climate change has emerged.⁶⁵ The remainder of the Introduction will situate my approach within the broader literature on climate ethics. In order to do so, I begin with a schematic overview of some of the key variables in approaches to evaluation adopted in research on climate ethics. These variables are outlined in Table 1.1 below.

⁶¹ OECD, Statistics 2013, accessed 20 December 2013. <http://www.oecd.org/statistics/>. See generally Chapters 5 and 6.

⁶² See Chapter 5, section 5.3.2 and Chapter 6, section 6.5.1.

⁶³ See Chapter 6, section 1.1.

⁶⁴ Notable early contributions include Anil Agarwal and Sunita Narain, *Global warming in an unequal world: A case of environmental colonialism* (New Delhi: Centre for Science and Environment, 1991); Dale Jamieson, "Ethics, public policy, and global warming", *Science Technology & Human Values* 17, no. 2 (1992); and Henry Shue, "Subsistence emissions and luxury emissions", *Law & Policy* 15, no. 1 (1993).

⁶⁵ Surveyed for example by Stephen M. Gardiner, "Ethics and global climate change", *Ethics* 114, no. 3 (2004); Stephen M. Gardiner, "Ethics and climate change: An introduction", *Wiley Interdisciplinary Reviews: Climate Change* 1, no. 1 (2010); and Darrel Moellendorf, "Climate change and global justice", *Wiley Interdisciplinary Reviews: Climate Change* 3, no. 2 (2012). A valuable compilation of key contribution to the literature is Gardiner et al., eds., *Climate ethics: Essential readings*.

The remainder of this subsection outlines the ethical foundations and mode of evaluation used in the thesis. Subsequent sections outline the external thematic scope (section 1.7), moral principles (section 1.8) and internal thematic scope (1.9). Discussion of the level of analysis is woven into these sections, but in brief the scope of all the chapters is primarily global, contemporary (in the sense of focusing on current effort-sharing arrangements while taking intergenerational implications into account) and state-based.

Table 1.2. Approaches to evaluation in climate ethics

<p>1. Evaluative framework</p> <ul style="list-style-type: none"> a. <i>Ethical foundations</i>: fairness, justice; deontological, consequentialist or virtue ethics; egalitarian or libertarian; cosmopolitan or communitarian b. <i>Mode of evaluation</i>: ideal or non-ideal theory c. <i>Moral principles</i>: rights, entitlements or responsibilities; addressing harm or alleviating deprivation
<p>2. Thematic scope of analysis</p> <ul style="list-style-type: none"> a. <i>External</i>: in isolation from or integrated with other concerns (e.g. trade or development) b. <i>Internal</i>: mitigation, adaptation, loss and damage
<p>3. Level of analysis</p> <ul style="list-style-type: none"> a. geographical (global, national or sub-national); temporal (contemporary or intergenerational); subjects (nation-states, individuals, firms, ecosystems)

1.6.2 Ethical foundations

1.6.2.1 Benchmarks for evaluation: fairness, equity, justice and legitimacy

In the ensuing chapters I focus primarily on considerations of fairness and equity (especially in Chapters 3 and 4) but also draw on ideas of justice (Chapter 2) and legitimacy (Chapter 5). In relation to several of these concepts, Paul Baer observes:

In debates about climate change, as elsewhere, the terms “justice,” “fairness,” and “equity” are used somewhat interchangeably. Indeed, it is hard to imagine that an institution or an outcome could be considered fair but not just, or just but not equitable.⁶⁶

As I outline below, I consider the terms fairness, equity, justice and also legitimacy to be closely related. Common to my understandings of these terms is that each (i) has substantive and procedural dimensions;⁶⁷ and (ii) applies both within and across countries and generations. However, I note some points of distinction among them. The concept of “equity” referred to in the climate convention could denote (as in international environmental law more generally) a broad criterion of fair treatment.⁶⁸ The concept of fairness is often taken to refer to a general principle of even-handed, proportionate or non-arbitrary treatment of persons and groups in the distribution of goods or the satisfaction of their moral claims.⁶⁹ For the purposes of the thesis I will treat equity and fairness as roughly equivalent, but reserve “equity” for those aspects of fairness that are understood to flow directly from requirements of equity within the climate convention and in general public international law.

Following Rawls, I take just institutions to be those where “no arbitrary distinctions are made between persons in the assigning of basic rights and duties and [...] the rules determine a proper balance between competing claims to the advantages of social life”.⁷⁰ I distinguish claims of justice from claims of fairness primarily on the

⁶⁶ Paul Baer, “International justice” in *The Oxford handbook of climate change and society*, ed. John Dryzek, Richard B. Norgaard, and D. Schlosberg (Oxford: Oxford University Press, 2011), 333.

⁶⁷ Most chapters focus on substantive evaluation, although Chapter 5 discusses some aspects of procedural legitimacy.

⁶⁸ Compare Shelton: “Equity in international environmental law ... means a rational sharing of the burdens and costs of environmental protection, discharged through the procedural and substantive adjustment of rights and duties” (Dinah Shelton, “Equity” in *Oxford handbook of international environmental law*, ed. Daniel Bodansky, Jutta Brunnée, and Ellen Hey (Oxford: Oxford University Press, 2007), 661).

⁶⁹ Compare John Rawls, *A theory of justice*, revised ed. (Cambridge, MA: Belknap Press of Harvard University Press, 1999), 5; see also John Broome, “Fairness”, *Proceedings of the Aristotelian Society* 91 (1990): 95.

⁷⁰ Rawls, *A theory of justice*, 5.

basis that the former give rise to more stringent and demanding requirements.⁷¹ However, I also consider that principles of fairness may apply even if they are not of sufficient status to qualify as principles of justice (and that an outcome may therefore be unfair even if it is not unjust).

I define legitimacy as “the justification of authority”.⁷² Accordingly, an institution is legitimate “if there are good reasons in support of its claims to authority”.⁷³ The substantive and procedural dimensions of legitimacy are often characterised respectively as “output” and “input” legitimacy.⁷⁴ An institution that is fair or just is likely to be legitimate as well, but legitimacy represents a more minimal evaluative standard than either fairness or justice. Thus an institution may be justified in the exercise of authority even if it falls short of the standard of justice. One valuable aspect of maintaining a distinction between justice and legitimacy is that “judging an institution to be legitimate, if flawed, focuses critical discourse by signalling that the appropriate objective is to reform it, rather than to reject it outright”.⁷⁵ Legitimacy thus provides an important standard for evaluation where there is reasonable disagreement about what the principles of justice or fairness require.⁷⁶

1.6.2.2 Cosmopolitan and communitarian perspectives on global justice

Much research on climate ethics has adopted a broadly cosmopolitan egalitarian perspective. While egalitarian cosmopolitan views vary, in rough terms they not

⁷¹ On stringency and demandingness, see Chapter 4, section 4.2.1. While this view adopts Rawls’ view regarding the priority of justice, I do not employ Rawls’ specific conception of “justice as fairness”, in the sense that “the principles of justice are the result of a fair agreement or bargain” (ibid., 11.). There are other important articulations of the relationship between the principles treated here. See for example Thomas M Franck, *Fairness in international law and institutions* (Oxford: Clarendon Press, 1995).

⁷² Daniel Bodansky, “The legitimacy of international governance: A coming challenge for international environmental law?”, *The American Journal of International Law* 93, no. 3 (1999): 601; see also generally Allen Buchanan, *Justice, legitimacy, and self-determination* (Oxford: Oxford University Press, 2004).

⁷³ Bodansky, “The legitimacy of international governance: A coming challenge for international environmental law?”: 601.

⁷⁴ See Chapter 5, section 0.

⁷⁵ Allen Buchanan and Robert O. Keohane, “The legitimacy of global governance institutions”, *Ethics & International Affairs* 20, no. 4 (2006): 407.

⁷⁶ Ibid.

only take all humans as moral equals but also consider that duties of egalitarian distributive justice apply at the global level.⁷⁷ By contrast, communitarian (or statist or nationalist) theories of justice adopt the view that duties of egalitarian distributive justice apply exclusively at the level of nation-states.⁷⁸ They may hold that some minimum duties of justice (such as a minimally decent standard of living) apply at the global level but that those duties fall short of requiring egalitarian constraints on the distribution of welfare or resources worldwide.⁷⁹ Egalitarian cosmopolitans differ in their manner of conceiving the grounds of duties of global distributive justice, some appealing to people's common humanity,⁸⁰ others to the facts of interdependence or common participation in global institutions.⁸¹

In the context of climate ethics, Baer observes:

While not all the philosophers who have written on climate change are otherwise engaged in debates about cosmopolitanism, they are nearly uniformly united around some form of liberal egalitarianism, with a commitment to equality of dignity and respect. Starting from this commitment, most conclude that claims of justice do apply to the international distribution of the costs and benefits of climate policy. [...] [T]here is a near consensus among the philosophers who have written on the topic that considerations of justice do in fact justify the obligation of rich and high-emitting countries to reduce their emissions, pay for emissions reductions in poor countries, and aid poor countries in adapting to climate change.⁸²

⁷⁷ See generally Darrel Moellendorf, *Cosmopolitan justice* (Boulder, Colorado: Westview, 2002); Joshua Cohen and Charles Sabel, "Extra rempublicam nulla justitia?", *Philosophy & Public Affairs* 34, no. 2 (2006); Thomas W Pogge, *World poverty and human rights*, 2nd ed. (Cambridge, UK: Polity, 2008); Helena De Bres, "The many, not the few: Pluralism about global distributive justice", *Journal of Political Philosophy* 20, no. 3 (2012).

⁷⁸ See generally John Rawls, *The law of peoples* (Cambridge, MA: Harvard University Press, 1999); Nagel, "The problem of global justice".

⁷⁹ David Miller, *National responsibility and global justice* (Oxford: Oxford University Press, 2007).

⁸⁰ Simon Caney, *Justice beyond borders: A global political theory* (Oxford University Press, 2005).

⁸¹ Pogge, *World poverty and human rights*; see also Laura Valentini, *Justice in a globalized world: A normative framework* (Oxford: Oxford University Press, 2011).

⁸² Baer, "International justice", 326.

In this thesis I adopt a similar starting point regarding the applicability of principles of justice at the global level, while noting here several points of clarification and qualification that are elaborated subsequently (particularly in Chapter 4). First, while I consider individual persons to be the ultimate units of moral concern, I will assume that moral responsibilities may attach to collectives.⁸³ I will focus primarily on states as agents of collective responsibility for the advancement of domestic and global justice, while noting that national responsibilities may be distributed so as to take account of relevant variations within countries.⁸⁴ This is a particularly important concern given that the geography of global poverty has shifted substantially in recent decades. While many countries in Africa remain poor despite recent improvements in economic growth rates, the majority of the world's poor now live in middle-income countries such as China and India.⁸⁵

Second, I take a pluralist approach to the scope of and grounds for the responsibilities or duties that states may have.⁸⁶ I consider that states may have domestic or global responsibilities of justice or fairness as well as responsibilities to promote the wellbeing of their own citizens.⁸⁷ I take the view that the stringency and demandingness of duties of justice may vary depending on whether they apply to one's fellow citizens or to those beyond one's national borders.⁸⁸ A state's responsibilities to address deprivation (or its "remedial responsibilities"⁸⁹) beyond

⁸³ Given the common usage of developed and developing "countries" in climate policy, I use the terms "country" and "state" interchangeably. For economy of expression, I will also use "national" to refer to an attribute of states or countries (e.g. "national responsibility"), while recognising that some authors draw distinctions between nations and states. See generally Miller, *National responsibility and global justice*.

⁸⁴ See Paul Baer et al., "Greenhouse development rights: Towards an equitable framework for global climate policy", *Cambridge Review of International Affairs* 21, no. 4 (2008): 329-30; Paul G. Harris, *World ethics and climate change: From international to global justice*, *Edinburgh studies in world ethics* (Edinburgh: Edinburgh University Press, 2010).

⁸⁵ Sumner, "Where do the poor live?".

⁸⁶ Whereas some authors distinguish between the terms "responsibilities" and "duties", I use the two interchangeably. I use the term "obligation" to refer to self-assumed responsibilities pursuant to a political or personal relationship. See generally Robert E. Goodin, *Protecting the vulnerable: A re-analysis of our social responsibilities* (Chicago: University of Chicago Press, 1985).

⁸⁷ John Broome, *Climate matters* (New York; London: W.W. Norton, 2012), 50-51.

⁸⁸ See Chapter 4, section 4.3.3.

⁸⁹ I adopt this term from David Miller, who defines remedial responsibility as "the responsibility we may have to come to the aid of those who need help". He distinguishes remedial responsibility from

its territory may arise where one or more of a range of moral considerations apply, such as the state's contribution to harm, its capacity to assist those suffering deprivation, or the fact that its citizens have benefited from injustice.⁹⁰ In taking this approach I do not rely on an explicit distinction between distributive and rectificatory justice.⁹¹ I consider that responsibilities associated with preventing or remedying harm are in general more stringent and demanding than those associated with assisting those suffering deprivation, but that the relative strength of harm-based responsibilities may vary according to the type of harm involved.⁹² This aspect is of particular relevance for climate ethics as climate change involves a range of harms mediated through global environmental and economic systems. In addition, I consider that at the global level duties of distributive justice may become more stringent and demanding where countries are involved in cooperative or coercive institutions (such as the global climate change and trade regimes).⁹³ Finally, the fulfilment of principles of global justice may be affected by a range of feasibility constraints. I turn to the implications of this aspect next.

1.6.3 Mode of evaluation: a contextual approach

1.6.3.1 Climate ethics, policy and non-ideal theory

A key question of method concerns the extent to which climate ethics should strive to integrate insights from the much larger body of empirical and political analysis on climate change, or whether it should seek largely to coexist alongside that work. This question echoes a broader debate about the way in which "ideal" theories of

outcome responsibility ("the responsibility we bear for our own actions and decisions"). See Miller, *National responsibility and global justice*, 81; and David Miller, "Distributing responsibilities", *Journal of Political Philosophy* 9, no. 4 (2001).

⁹⁰ I outline in more detail the nature of these principles as they relate to climate change in section 1.8.

⁹¹ For a discussion in climate ethics that explores this distinction, see Steve Vanderheiden, "Globalizing responsibility for climate change", *Ethics & International Affairs* 25, no. 1 (2011).

⁹² See Chapter 4, section 4.3.3.

⁹³ See Chapter 4, section 4.3.3.

distributive justice should relate to “non-ideal” theory.⁹⁴ Ideal theory is generally thought to be “ideal” in at least two respects: it contains substantial “idealizations” away from real circumstances (such as the assumption of strict compliance with the precepts of justice), and it also sets out a vision of an “ideally” just society.⁹⁵ Non-ideal theory, by contrast, focuses greater attention on the steps required to make progress from current conditions towards a more just (or ideally just) society.⁹⁶ In doing so it focuses greater attention on empirical circumstances and questions of feasibility.⁹⁷

The question of whether it is necessary to have a fully-fledged ideal theory in place before pursuing non-ideal theorising has attracted considerable debate.⁹⁸ While I cannot hope to resolve that debate here, I believe it is preferable to see ideal and non-ideal theorising as necessary and complementary parts of the division of moral inquiry. As such, non-ideal theorising may adopt points of orientation from others’ work in ideal theory.⁹⁹

As noted earlier in the introduction, the thesis adopts what I refer to as a “contextual” approach to evaluation in that it seeks to interpret and apply principles on the basis of an understanding of the institutional context in which they operate. The idea that moral principles may have different applications depending on the empirical circumstances of the context at hand is a commonplace of applied

⁹⁴ The distinction between ideal and non-ideal theory gained currency through John Rawls’ pioneering work on distributive justice and the large body of commentary that it has spawned. See Rawls, *A theory of justice*, 216; Rawls, *The law of peoples*, 5, 89-90.

⁹⁵ Ingrid Robeyns, “Ideal theory in theory and practice”, *Social Theory and Practice* 34, no. 3 (2008): 344; Laura Valentini, “On the apparent paradox of ideal theory”, *Journal of Political Philosophy* 17, no. 3 (2009): 337-38.

⁹⁶ Robeyns, “Ideal theory in theory and practice”: 346.

⁹⁷ *Ibid.*, 347.; see also Rawls, *A theory of justice*, 8 and A. John Simmons, “Ideal and nonideal theory”, *Philosophy and Public Affairs* 38, no. 1 (2010): 18-19.

⁹⁸ For arguments that ideal theory must be developed first, see Rawls, *The law of peoples*, 90; Simmons, “Ideal and nonideal theory”: 31-36. For arguments to the contrary see Amartya Sen, *The idea of justice* (London: Allen Lane, 2009), Chapter 4; and Geoffrey Brennan and Philip Pettit, “The feasibility issue” in *The Oxford handbook of contemporary philosophy*, ed. Frank Jackson and Michael Smith (Oxford: Oxford University Press, 2005).

⁹⁹ Compare Zofia Stemplowska, “What’s ideal about ideal theory?”, *Social Theory and Practice* 34, no. 3 (2008).

ethics.¹⁰⁰ There is little room for doubt, for example, that research in climate ethics should be informed by accurate scientific understanding of the functioning of the climate system and its impacts on humans and their environment.¹⁰¹ Nevertheless, debate remains over the extent to which theory development should take into account (i) empirical evidence about conceptions of fairness that people hold, and (ii) feasibility constraints. I address each issue in turn.

1.6.3.2 Conceptions of fairness

Contextual approaches may draw on empirical evidence about conceptions of fairness from a number of sources and for a number of purposes. Sources may include the structure of conventions or social practices,¹⁰² widely agreed norms as institutionalised (for example) in domestic and international law,¹⁰³ as well as the normative beliefs that people hold about a particular issue. I employ this evidence principally for two purposes. First, evidence of widely agreed principles (such as those outlined in section 1.5 in relation to the climate convention) may direct attention towards moral concerns that matter most in a given situation.¹⁰⁴ Second, empirical evidence of principles and normative beliefs may inform judgements about what kinds of normative prescriptions are likely to be feasible in practice. I elaborate on these aspects in section 1.8.

¹⁰⁰ John M. Doris and Stephen P. Stich, "As a matter of fact: Empirical perspectives on ethics" in *Oxford handbook of contemporary philosophy*, ed. Frank Jackson and Michael Smith (Oxford: Oxford University Press, 2005); Sebastian Schleidgen, Michael C. Jungert, and Robert H. Bauer, "Mission: Impossible? On empirical-normative collaboration in ethical reasoning", *Ethical Theory and Moral Practice* (2009).

¹⁰¹ Simon Caney, "Cosmopolitan justice, responsibility, and global climate change", *Leiden Journal of International Law* 18 (2005): 750.

¹⁰² See Chapter 6, section 6.2.1.

¹⁰³ Robert E. Goodin, "What is so special about our fellow countrymen?", *Ethics* 98, no. 4 (1988): 667.

¹⁰⁴ Adam Swift et al., "Distributive justice: Does it matter what the people think?" in *Social justice and political change: Public opinion in capitalist and post-communist states*, ed. James R. Kluegel, David S. Mason, and Bernd Wegener (New York: Aldine de Gruyter, 1995).

1.6.3.3 Feasibility constraints

I define the term “feasibility” broadly as “compatibility with the limits imposed by our best understanding of human nature and social institutions”.¹⁰⁵ Political feasibility generally encompasses aspects of accessibility (the availability of a practical route from one state of affairs to another) and stability (whether the proposed state of affairs can be maintained once it is reached).¹⁰⁶ In Chapter 6 I discuss the roles of accessibility and stability in informing criteria for evaluating possible definitions of aid.¹⁰⁷ However, in other chapters I focus primarily on feasibility constraints that relate to accessibility.

One of the most valuable aspects of incorporating feasibility considerations into non-ideal theory is that it may enable theories to generate recommendations for intermediate steps for progressing from current conditions towards a fairer or ideally fair set of arrangements, or what Stephen Gardiner refers to as an “ethics for the transition”.¹⁰⁸ Nevertheless, there is a concern that incorporating feasibility considerations may result too readily in ethical theory being compromised by political expediency.¹⁰⁹ I respond to this concern in section 1.8, but for the present I briefly outline several feasibility constraints that I address in subsequent chapters.

A first constraint involves *empirical uncertainty*. This may extend to the causes or impacts of climate change, and our ability to attribute particular actions, costs or benefits to specific actors. This factor may influence our ability to take account of (i) how responsibilities associated with climate change affect wider responsibilities of global justice (section 1.7) and (ii) how distributive principles should be implemented (section 1.9). A second constraint concerns the *urgency* of the

¹⁰⁵ Christian Barry and Laura Valentini, “Egalitarian challenges to global egalitarianism: A critique”, *Review of International Studies* 35, no. 03 (2009): 508.

¹⁰⁶ Pablo Gilabert and Holly Lawford-Smith, “Political feasibility: A conceptual exploration”, *Political Studies* 60, no. 4 (2012): 3; see Chapter 3, section 3.2.3.

¹⁰⁷ Chapter 6, section 6.3.

¹⁰⁸ Pablo Gilabert, “Global justice and poverty relief in nonideal circumstances”, *Social Theory and Practice* 34, no. 3 (2008):416; Stephen M. Gardiner, “Climate justice” in *The Oxford handbook of climate change and society*, ed. John Dryzek, Richard B. Norgaard, and D. Schlosberg (Oxford: Oxford University Press, 2011), Chapter 11.

¹⁰⁹ Compare Stemplowska, “What’s ideal about ideal theory?”: 339.

problem. This may affect the relative importance of ensuring distributive fairness vis-à-vis advancing other moral concerns such as preventing harm (see section 1.8) or the availability of reform options (section 1.9). A third constraint involves the fact of *reasonable pluralism* about moral principles. As noted above, assessment of people's views about normative principles and their attitudes towards particular framings of principles may provide important indications of how readily those principles will be accepted in practice. A final constraint concerns *institutional feasibility*. Institutions may enable certain types of action—notably by overcoming collective action problems—but they may also present a range of constraints upon action. Institutional constraints may affect the scope of the issues that an institution may address (section 1.8) as well as the design of policy instruments (section 1.9).

1.7 External scope of analysis: linking climate change and development

1.7.1 An overview of research themes in climate ethics

Now that I have outlined an overall methodology for the thesis, let us consider in more detail the thematic scope of analysis in the thesis. Two recent reviews of climate ethics converge on a tripartite categorisation of major research themes in the field.¹¹⁰ The first three columns of Table 1.3 link the categories of action mentioned above to these categories of research question. For comparative purposes I add a column on development that helps to situate aspects of Chapters 5 and 6.

¹¹⁰ Gardiner, "Climate justice"; Baer, "International justice". I modify the terminology used by each author slightly to match categories I have set out earlier in the Introduction. For parsimony—and reflecting the categorisation outlined in the two reviews—I treat adaptation and loss and damage together.

Table 1.3. Categories of action on climate change and development

	Mitigation		Adaptation/ loss and damage (L&D)	Development
	<i>1. Target-setting</i>	<i>2. Effort-sharing</i>	<i>3. Addressing impacts</i>	<i>4. Promoting development/ reducing poverty</i>
A. Global	<ul style="list-style-type: none"> Global mitigation targets and trajectories 	<ul style="list-style-type: none"> National mitigation targets [Chs 2, 3] International emissions trading International finance for mitigation [Chs 2, 5, 6] Addressing transnational impacts of mitigation policies [Ch 4] 	<ul style="list-style-type: none"> International finance for adaptation/ L&D [Chs 2, 5, 6] Addressing transnational impacts of adaptation/ L&D policies 	<ul style="list-style-type: none"> International development finance, including aid [Chs 5, 6] Other policies that affect international development
B. National	<ul style="list-style-type: none"> National mitigation targets and trajectories [derived from global effort-sharing] 	<ul style="list-style-type: none"> National mitigation measures (carbon pricing, regulation, funding) Addressing domestic impacts of mitigation policies [Ch 4] 	<ul style="list-style-type: none"> National adaptation/ L&D measures Addressing domestic impacts of adaptation/ L&D policies 	<ul style="list-style-type: none"> National development planning

Subsequent chapters focus primarily on the issue of sharing the efforts of mitigation and adaptation, with an emphasis on international effort-sharing (cells 2A and 3A). Chapter 4 is unique among the chapters in comparing impacts of mitigation policies at both the international and domestic levels (cells 2A and 2B respectively). Accordingly, I will have little to say about setting overall targets for mitigation

(column 1) but will consider effort-sharing arrangements against the backdrop of a target that has a reasonable likelihood of avoiding dangerous climate change.¹¹¹

1.7.2 Sharing the costs of addressing climate change: isolated and integrated approaches

The preceding discussion of global climate policy has already suggested a number of ways in which fairness in climate policy relates to the broader global distribution of economic resources. There is considerable debate over how the two areas should be understood in relation to one another (the question of external thematic scope).¹¹² The debate poses the challenge of how to formulate a complete theory of global justice to set the various issues in an adequate theoretical context.¹¹³

However, as I argue below, it is not only possible but necessary to explore the morality of individual issues to achieve at least a provisional evaluation of major policy issues, since progress in international negotiations may require focusing on particular pieces of the moral jigsaw.

Caney has drawn a distinction between approaches that consider justice in the distribution of climate-related costs and benefits in isolation from justice in the distribution of economic resources globally (the “Method of Isolation”) and those that integrate the two (the “Method of Integration”).¹¹⁴ Individual theories may not reside only at one extreme or the other, but somewhere on a continuum between them.¹¹⁵ The distinction between isolation and integration forms part of a cluster of distinctions (including Caney’s further distinction between atomism and holism) that I will employ and discuss in the remainder of this chapter (see Table 1.4 below).

¹¹¹ See Chapter 3. On target-setting generally, see for example Moellendorf, “A normative account of dangerous climate change”; Henry Shue, “Human rights, climate change, and the trillionth ton” in *The ethics of global climate change*, ed. Denis G. Arnold (Cambridge, UK: Cambridge University Press, 2011).

¹¹² See Table 1.2.

¹¹³ See also Gardiner, *A perfect moral storm*, Chapter 11.

¹¹⁴ Although Caney applies the distinction specifically to the context of the distribution of greenhouse gas emissions, he notes that the distinction could be applicable to climate justice more broadly (see Simon Caney, “Just emissions”, *Philosophy & Public Affairs* 40, no. 4 (2012): 259, footnote 7).

¹¹⁵ For a finer-grained set of categories, see Gardiner, *A perfect moral storm*, 436. See also Robeyns, “Ideal theory in theory and practice”: 344.

Table 1.4. Structural variations in climate ethics and policy analysis

External thematic scope	<i>Isolation</i> from other considerations of global justice	<i>Integration</i> with broader considerations of global justice
Internal thematic scope	<i>Atomism</i> different principles applied to different categories of action	<i>Holism</i> a single set of principles applied to all categories of action together
Structure of climate governance	<i>Fragmentation</i> unilateral and/or uncoordinated action	<i>Coordination</i> coordinated and/or mutually reinforcing action

Caney notes that supporting the method of integration at the level of principle does not necessarily commit one to the same position at the level of practical implementation.¹¹⁶ Caney ultimately rejects isolation at both levels. At the level of principle, Caney makes a compelling case that we should not treat greenhouse gas emissions as a good with intrinsic moral importance; rather, emissions are a means to secure other morally important goods (food, shelter, livelihoods and so on); accordingly, we need to consider the distribution of greenhouse gas entitlements in the context of a wider set of goods.¹¹⁷ Moreover, he presents two arguments for rejecting an isolationist view at the level of implementation. I will briefly address these arguments and explain the extent to which my own approach differs.

1.7.2.1 The intractability argument

The first argument for isolated implementation rejected by Caney is that, given the difficulty of agreeing on even a just distribution of greenhouse gas emissions

¹¹⁶ Caney, "Just emissions": 277. I consider these levels to be roughly comparable with those of ideal and non-ideal theory.

¹¹⁷ Ibid., 285.

entitlements, attempting to resolve broader issues of global justice in the present negotiating process would result in an impasse.¹¹⁸ Caney refers to this as the “intractability argument”. Such an argument has been advanced by Eric A. Posner and David Weisbach. A redistributive climate treaty, they argue, would also incorporate a form of multilateral aid treaty, but given that disagreements about how aid should be distributed have impeded agreement on an aid treaty to date, linking the two issues could result in deadlock.¹¹⁹ Among other responses, Caney argues that isolationist approaches may in fact be more rather than less likely to generate an impasse, since developing countries with considerable influence in negotiations (including China and India) are likely to resist any international agreement on climate change that fails to take into account their own development priorities.¹²⁰

I find Caney’s response to the intractability argument plausible. As noted above, the climate convention already incorporates principles that bear on broader development concerns. While some might think that the convention thus entrenches the intractability of the climate problem, it is important to note the limited scope of the principles set out in the convention:

Fundamentally, the Convention’s principles distinguishing burdens of the developed and the developing states is not about resource redistribution, then, although it has been maligned as such. Rather such principles serve to ensure that neither climate change nor a climate change treaty worsen the prospects for development for poor countries.¹²¹

Even if the convention is not a vehicle for the general redistribution of global resources, it remains the case that substantial financial resources will be required

¹¹⁸ Ibid., 277-80.

¹¹⁹ Eric A. Posner and David Weisbach, *Climate change justice* (Princeton, NJ: Princeton University Press, 2010), 86.

¹²⁰ Caney, “Just emissions”: 279.

¹²¹ Moellendorf, “Climate change and global justice”: 133. Moellendorf notes that the “maligners” he has in mind are Posner and Weisbach.

specifically to address climate change in developing countries. Basing financing commitments on credible assessments of developing countries' climate-related needs may help reinforce in negotiations the idea that such commitments aim to address the climate change problem in an equitable fashion rather than secure a general transfer of wealth.¹²²

In addition, the intractability argument intersects with the question of the constraint of empirical uncertainty noted above. That is, both scholars and policymakers necessarily have a limited understanding of the ways in which specific problems intersect with others. In many cases a problem may become more tractable conceptually if it is broken down into smaller components, or if one focuses on addressing a specific injustice.¹²³ Approaches of this kind may run the risk that fixing one injustice could create or exacerbate another. However, this risk could be addressed by adopting an iterative approach to problem-solving that can take account of unanticipated effects at successive stages of reform.¹²⁴

1.7.2.2 The fragmentation argument

The second argument in favour of isolation (which Caney refers to as the “impotence argument” but which I will refer to as the “fragmentation argument”) is that it is better to deal with greenhouse gas emissions in isolation because of the current fragmentation of decision-making at the international level.¹²⁵ Caney argues that, despite the fragmentation of global governance, climate negotiations do in fact take into account a range of issues other than the allocation of emissions entitlements, including funding for mitigation and adaptation in developing countries. Moreover, even if negotiators did not have the power to influence the distribution of other goods apart from greenhouse gas emissions, they could still distribute greenhouse gas emissions in a way that takes into account the existing

¹²² See Chapter 5, section 5.3.2.

¹²³ David Wiens, "Prescribing institutions without ideal theory", *Journal of Political Philosophy* 20, no. 1 (2012). In some circumstances empirical uncertainty about the causes of a problem could instead point to the need for greater integration: see Chapter 4, section 4.4.4.

¹²⁴ *Ibid.*, 66.

¹²⁵ Caney, "Just emissions": 280-82. I define and elaborate upon the idea of fragmentation in Chapter 5, section 5.2.1.

distribution of other goods, for example by providing a larger share of climate-related resources to the extremely disadvantaged.¹²⁶

Caney's case against the fragmentation argument justifiably cautions against a narrow focus on distributing emissions rights. Nevertheless, this does not amount to a positive argument in favour of complete integration. Indeed two of the underlying causes of fragmentation suggest that complete integration may be infeasible. The first relates to the idea of state sovereignty. States will generally only delegate authority to multilateral bodies where cooperation is necessary to achieve their national interests. As a result, cooperation tends to emerge only on a piecemeal basis.¹²⁷ In particular, it is unlikely that countries would entrust a global entity with comprehensive powers of taxation and social welfare that could bring about a systematic distribution of global economic resources comparable to that brought about by national governments domestically.¹²⁸

A second cause of fragmentation involves functional limitations. That is, just as it is often considered preferable to employ different policy instruments to advance different policy objectives,¹²⁹ an individual international institution may be capable of achieving some objectives but not others. Posner and Weisbach present one variation of this argument. They argue that, to the extent that wealthy countries have a general ethical obligation to assist the poor, such an obligation should be discharged through more targeted means of redistribution.¹³⁰ Their argument validly points to the concern about not overloading the climate regime with too many competing objectives. However, even if the climate regime could not provide a substitute for the aid regime (for example), it is not clear that it is incapable of addressing a range of other climate-related concerns, notably facilitating adaptation to the effects of climate change that cannot be avoided through reducing emissions.

¹²⁶ Ibid., 282.

¹²⁷ See Lisa L. Martin, "Interests, power, and multilateralism", *International Organization* 46, no. 4 (1992).

¹²⁸ See Chapter 5, section 5.5.2.

¹²⁹ Richard A Musgrave, *The theory of public finance: A study in public economy* (New York: McGraw-Hill, 1959), 5-6.

¹³⁰ Posner and Weisbach, *Climate change justice*, 74.

Nevertheless, there may also be value in breaking down some components of the climate regime into smaller “building blocks” (such as dealing with short-lived climate pollutants or mitigation in sectors such as aviation or shipping) as this may both facilitate progress on more tractable issues as well as enable the creation of policy instruments tailored to specific circumstances.¹³¹

1.7.3 A mutual reinforcement model

In response to the intractability and fragmentation arguments, I agree with Caney in rejecting a strong isolationist view of the scope of climate justice. However, my view is closest to what Gardiner terms the “mild rectification” model, or what I would prefer to term a “mutual reinforcement” model.¹³² That is, even if the climate regime is not capable of achieving comprehensive global justice, it should at a minimum not harm countries’ development prospects.¹³³ Moreover, the climate regime should seek out opportunities to reinforce development objectives where appropriate.

This approach has the implication that the climate regime should address the risk that climate policies could exacerbate poverty, for example if poorer countries are required to switch to lower-polluting but more expensive sources of energy at the cost of other pressing development priorities. International funding could help address this concern, but in doing so should address the further risk that such funding could divert aid from other development objectives.¹³⁴ At the same time, the climate regime should seek out ways in which this funding can simultaneously promote resilience to climate change while also advancing development. The global aid regime, for its part, should not invest in measures that worsen the climate problem (such as heavily polluting coal-fired power plants) but should identify ways

¹³¹ David G. Victor, “Fragmented carbon markets and reluctant nations: Implications for design of effective mechanisms” in *Architectures for agreement: Addressing climate change in the post-Kyoto world*, ed. Joseph E. Aldy and Robert N. Stavins (Cambridge, UK: Cambridge University Press, 2007); Robert Falkner, Hannes Stephan, and John Vogler, “International climate policy after Copenhagen: Towards a ‘building blocks’ approach”, *Global Policy* 1, no. 3 (2010).

¹³² Gardiner, *A perfect moral storm*, 436.

¹³³ To this extent it is similar to Gardiner’s “neutrality model”: *ibid.*

¹³⁴ See Chapters 5 and 6, section 6.5.1.

in which development activities may also promote climate resilience (such as “climate-proofing” infrastructure investments).¹³⁵

1.8 Principles of fairness in global climate policy

Let us now consider the question of the principles of fairness and associated responsibilities that could apply under the mutual reinforcement model that I have sketched. I begin by responding to a general challenge to the role of fairness in climate negotiations, before providing a positive account of the principles invoked in the remainder of the thesis.

1.8.1 *Does the need for an urgent response take priority over fairness?*

We saw previously that climate change poses an urgent global challenge. Some argue that in some circumstances the imperative of avoiding harm must displace or marginalise considerations of distributive fairness.¹³⁶ No doubt in some extreme emergencies the imperative of avoiding harm trumps that of ensuring fairness. However, even though catastrophic climate change could indeed wipe out decades of development progress, we have already seen that a collective response to climate change requires broad participation of developing countries, which in turn requires addressing basic development concerns.¹³⁷ As I discuss in Chapter 4, it is misleading to consider addressing climate change and poverty as an either/or issue. Although the costs of doing both are substantial, they are not overwhelmingly so (although in the case of climate change they may become so if countries delay action for too long).¹³⁸ In particular, wealthy countries could make substantial

¹³⁵ Jessica M. Ayers and Saleemul Huq, "Supporting adaptation to climate change: What role for official development assistance?", *Development Policy Review* 27, no. 6 (2009).

¹³⁶ As Gardiner notes (Gardiner, *A perfect moral storm: The ethical tragedy of climate change*, 309).

¹³⁷ I assume here that alternative “quick fixes” to climate change such as geo-engineering would likewise face insuperable hurdles if they imposed unfair costs on other countries. See *ibid.*, Chapter 10.

¹³⁸ Volker Krey and Keywan Riahi, "Implications of delayed participation and technology failure for the feasibility, costs, and likelihood of staying below temperature targets—greenhouse gas mitigation scenarios for the 21st century", *Energy Economics* 31, no. Supplement 2 (2009).

inroads into both by supporting developing countries' efforts without unreasonable sacrifices of their own wellbeing.¹³⁹

1.8.2 The function of norms in international negotiations

Let us now begin supplying more specific content to the principles that may inform evaluations of fairness under the climate regime. In line with the contextual approach outlined above, our understanding of the principles invoked by participants in the climate regime may provide useful guidance on both the relevant moral principles at stake as well as the feasibility of translating principles into practice. Chapter 3 addresses two common reductive challenges to such an approach, namely: (i) that principles of fairness espoused by participants are merely a guise for their material interests; and (ii) that what is actually fair is reducible to what participants perceive to be fair.

Here I elaborate on two points regarding the nature and function of norms that are only touched upon briefly in Chapter 3. First, norms may be defined as “shared expectations about appropriate behavior held by a community of actors”,¹⁴⁰ and may entail “a collective evaluation of behavior in terms of what ought to be done, a collective expectation as to what will be done, and particular reactions to compliant versus noncompliant behaviour”.¹⁴¹ Norms as I understand them constitute a broad category that also includes abstract or general principles as well as context-specific rules and laws.¹⁴²

Second, norms may have a variety of influences on negotiations. On a realist conception of international relations, what matters most in explaining action is material interests; ethical arguments are likely to be merely self-serving and have

¹³⁹ See section 1.4 above.

¹⁴⁰ Martha Finnemore, *National interests in international society* (Ithaca: Cornell University Press, 1996), 22.

¹⁴¹ Gregory A. Raymond, "Problems and prospects in the study of international norms", *Mershon International Studies Review* 41, no. 2 (1997): 218.

¹⁴² *Ibid.*, 218-19. For similar usage in a philosophical context, see Nicholas Southwood and Lina Eriksson, "Norms and conventions", *Philosophical Explorations* 14, no. 2 (2011): 198.

no independent causal role.¹⁴³ Somewhat less minimally, some argue that agreements that are perceived to be fair are often more likely to be effective, particularly in international negotiations where agreements must generally be “self-enforcing” in the absence of legitimate supra-national means of coercion.¹⁴⁴ Another view of a relatively limited role for fairness is that it functions as a “soft constraint” on self-interest, or as a guide to decision where self-interest does not prescribe a conclusive course of action.¹⁴⁵ As David Miller argues:

A more accurate picture is that claims are advanced in the name of fairness, but the negotiating parties tend to choose the particular principles of justice that best serve their interests – since in many cases there are indeed different principles that can plausibly be advanced. This is not merely hypocrisy, however, because by moving to the level of principle in the first place, you rule out a number of possible solutions, including almost certainly the ones that are most to your advantage.¹⁴⁶

Finally, one may adopt a maximal view according to which norms may have a more expansive or transformative influence on the outcomes of negotiations.¹⁴⁷ While I am open to this view, I assume for the purposes of the thesis only the more limited view that, at the very least, norms impose some soft constraints on material interests. As we will see in the next subsection, this has important implications for our understanding of feasibility constraints.

What significance do norms held by countries have for the process of identifying applicable principles in normative theory? We need not accept at face value what

¹⁴³ Neta C. Crawford, *Argument and change in world politics: Ethics, decolonization, and humanitarian intervention* (Cambridge: Cambridge University Press, 2002), 83.

¹⁴⁴ Scott Barrett, *Environment and statecraft: The strategy of environmental treaty-making* (Oxford: Oxford University Press, 2003), xiv; Steve Vanderheiden, *Atmospheric justice: A political theory of climate change* (New York: Oxford University Press, 2008), 59; David Miller, "Global justice and climate change: How should responsibilities be distributed?" in *The Tanner Lectures on Human Values* (Salt Lake City: University of Utah Press, 2009), 123.

¹⁴⁵ L. Ringius, A. Torvanger, and A. Underdal, "Burden sharing and fairness principles in international climate policy", *International Environmental Agreements: Politics, Law and Economics* 2, no. 1 (2002): 3.

¹⁴⁶ Miller, "Global justice and climate change", 124.

¹⁴⁷ Compare Crawford, *Argument and change in world politics*.

countries say, since they may have tactical or other reasons not to say what they think (or to say only part of what they think), and in any case what they think may be tainted by ignorance or prejudice. Thus, as Chapter 3 argues, we may still judge an agreement to be unfair even if all participants consider it to be fair.¹⁴⁸ However, theory may be guided by those views that are expressed by citizens or their representatives as part of a credible deliberative process, or may subject uncritical opinions to modes of scrutiny that are publicly acceptable.¹⁴⁹ As Norman Daniels notes, agreement among groups about how to resolve a particular issue may not be merely a “moral compromise but a principled moral solution to a policy problem”.¹⁵⁰ A sophisticated approach could justify recourse to public views on fairness on the basis that a theory of justice, which envisages and requires implementation through political institutions, will only be feasible and legitimate if it can be publicly accepted or justified through political debate.¹⁵¹

1.8.3 Norms of fairness under the climate regime

The literature that has emerged on the role of norms in climate and environment negotiations has established some solid findings about the existence of a limited range of broad norms, including those of equity, CBDR&RC, sustainable development and the precautionary principle.¹⁵² Theorists frequently consider equity norms to have more weight in global environmental policy than in other areas of international relations.¹⁵³ This may be due to the nature of specific aspects

¹⁴⁸ Chapter 3, section 3.2.2.

¹⁴⁹ Swift et al., "Distributive justice: Does it matter what the people think?", 22.

¹⁵⁰ Norman Daniels, *Justice and justification: Reflective equilibrium in theory and practice* (Cambridge: Cambridge University Press, 1996), 15.

¹⁵¹ John Rawls, *Political liberalism* (New York: Columbia University Press, 1993). Hepburn and Stern note the possible value of Rawls's idea of 'reflective equilibrium' in mediating among different ethical frameworks for addressing climate change (Hepburn and Stern, "The global deal on climate change", 39).

¹⁵² Lavanya Rajamani, *Differential treatment in international environmental law* (Oxford: Oxford University Press, 2006); Chukwumerije Okereke, "Equity norms in global environmental governance", *Global Environmental Politics* 8, no. 3 (2008); Darrel Moellendorf, "A right to sustainable development", *The Monist* 94, no. 3 (2011).

¹⁵³ Okereke, "Equity norms in global environmental governance": 36; compare Patricia Birnie, Alan Boyle, and Catherine Redgwell, *International law and the environment*, 3rd ed. (Oxford: Oxford University Press, 2009), 378.

of the issue of climate change, such as clearer evidence of causality or responsibility on the part of certain parties for the problems that need to be addressed through negotiation, and the scope for vulnerable groups—who are conspicuously entitled to equitable treatment—to exert some leverage in negotiations.¹⁵⁴

In several chapters I employ the principle of CBDR&RC—interpreted as a moral principle rather than exclusively a legal one—to structure the analysis of principles of fairness.¹⁵⁵ Employing this principle presents several advantages. First, CBDR&RC incorporates two factors widely considered in climate ethics to be central to allocating responsibilities under the climate change regime: (i) responsibility for causing the problem of climate change, and (ii) capability (or capacity) to respond to the problem.¹⁵⁶ A second advantage is that the principle is firmly embedded in the climate convention, thus providing a foothold for further elaboration of what the principle specifically requires. Despite this, CBDR&RC also poses the challenge that parties continue to hold widely varying views about how to interpret the principle.

1.8.4 Rhetoric and framing

As outlined in Chapter 2, the discursive framing of moral principles may enhance or inhibit the likelihood that they will attract wide acceptance in climate change negotiations.¹⁵⁷ In general, developing countries have been much more likely than developed countries to frame their arguments in negotiations in terms of fairness or equity.¹⁵⁸ As I outline in Chapter 3, the frame of “equity” itself has been a point of controversy in recent negotiations. At a broad level, developing countries have

¹⁵⁴ Okereke, "Equity norms in global environmental governance": 37.

¹⁵⁵ See Chapters 2-5.

¹⁵⁶ Examples of works in climate ethics that invoke various interpretations of the CBDR&RC principle include Caney, "Cosmopolitan justice, responsibility, and global climate change": 774; Baer et al., "Greenhouse development rights"; and Darrel Moellendorf, "Treaty norms and climate change mitigation", *Ethics & International Affairs* 23, no. 3 (2009).

¹⁵⁷ I define “frame” in Chapter 2, section 1.1. For more recent literature on frames related to climate change, see Elisabeth Gsottbauer and Jeroen C.J. M. den Bergh, "Bounded rationality and social interaction in negotiating a climate agreement", *International Environmental Agreements: Politics, Law and Economics* 13, no. 3 (2013); and Mattias Wahlström, Magnus Wennerhag, and Christopher Rootes, "Framing “the climate issue”: Patterns of participation and prognostic frames among climate summit protesters", *Global Environmental Politics* 13, no. 4 (2013).

¹⁵⁸ Pickering, Vanderheiden, and Miller, "Ethical issues in the United Nations climate negotiations", 22.

tended to focus more on the challenge of “burden-sharing” or “effort-sharing”, whereas developed countries have tended to focus more on the opportunities presented by the development of cleaner technologies.¹⁵⁹ Contentious frames employed to varying degrees by developing countries include ideas of climate debt (as discussed in Chapter 2) and compensation (Chapter 4). Conversely, a contentious frame employed by developed countries is the idea that climate finance for developing countries may be classed as “aid” (Chapter 6).¹⁶⁰

1.9 Internal scope of analysis: linking responsibilities to policy instruments

In order to translate norms into action, they must not only attract wide acceptance but must be institutionalised through policy instruments. Here I discuss two key policy considerations for implementing principles: the range of actions to which a particular principle applies; and the extent of multilateral coordination involved in institutional design.

1.9.1 Holist and atomist approaches to categories of action

An area of debate mirroring that between isolation and integration is whether approaches to climate justice should apply distinct moral principles to different categories of action (such as mitigation, adaptation and loss and damage), or apply principles to all categories together. Caney refers to these views as “atomist” and “holist” positions respectively.¹⁶¹ The issue-by-issue approach taken in subsequent chapters of the thesis therefore requires some justification.

As with the distinction between isolation and integration, we may envisage the atomist-holist distinction as applying at the levels of principle and implementation. Recent writing has highlighted the ethical significance of the distinction between

¹⁵⁹ Compare Simon Zadek, “Beyond climate finance: From accountability to productivity in addressing the climate challenge”, *Climate Policy* 11, no. 3 (2011).

¹⁶⁰ See also Jonathan Pickering et al., “Acting on climate finance pledges: Inter-agency dynamics and relationships with aid in contributor states” *Centre for Climate Economics and Policy (CCEP) Working Paper 1306, October 2013* (Canberra: Crawford School of Public Policy, The Australian National University, 2013).

¹⁶¹ Caney, “Just emissions”: 258.

adaptation and mitigation,¹⁶² often pointing to the fact that the responsibilities associated with each generate different types of benefits and may be discharged in various ways by different actors.¹⁶³ Since the thesis focuses primarily on the level of implementation it is not necessary to opt for one view or the other at the level of principle. I will focus therefore on the case for each view at the level of implementation.

A first point to note is that at the level of implementation the atomist-holist distinction may apply not only to the three substantive *categories of action* already mentioned (mitigation, adaptation and loss and damage) but also to different *components* of those actions (such as the direct and indirect costs of each type of action) and different *policy instruments* or functions (such as national mitigation targets and international finance for developing countries).

Thus in Chapter 4 I argue that, even if at the level of principle we take a holistic approach to distributing the direct and indirect costs of action, there may be good reason for taking an atomist approach to those costs in practice given the empirical uncertainties about the scope of indirect costs.¹⁶⁴ The same uncertainties nevertheless point to an integrationist approach to protecting those who are vulnerable to both climatic and other shocks.

Similarly, Chapters 3, 4 and 5 point to several arguments in favour of a degree of atomism in relation to policy instruments, in particular by identifying distinct principles associated with climate finance. This view is based on a key insight shaping the design of global climate policy that

[...] by separating who finances climate action from where it occurs, flows of climate finance from developed to developing countries are a key way to reconcile economic

¹⁶² See Chapter 2, section 2.4.4.

¹⁶³ Vanderheiden, "Globalizing responsibility for climate change": 67.

¹⁶⁴ Chapter 4, section 4.4.1.

efficiency with equity in dealing with the challenge of climate change and development.¹⁶⁵

There may be compelling reasons to enact a separation between where action takes place and which countries fund it. Importantly, many of the opportunities for reducing emissions at low cost are located in developing countries.¹⁶⁶ At the same time, many developing countries lack the domestic resources to capture these mitigation opportunities or to fund adequate adaptation measures. One option for increasing support for action in developing countries would be to introduce a system of tradeable emissions entitlements. However, as I argue in subsequent chapters, the capacity of emissions trading to secure an equitable distribution of costs remains limited.¹⁶⁷ Thus a range of other policy instruments will be needed to bring about a fairer climate regime.¹⁶⁸

Taking the possibility of financial transfers into account might suggest that we should take a holistic approach to implementation.¹⁶⁹ However, I take an intermediate approach. Reasons of institutional feasibility may render it necessary to establish dedicated effort-sharing arrangements for specific policy instruments. Nevertheless, we may achieve some commonality across effort-sharing arrangements by employing the principle of CBDR&RC to each instrument, while quantifying capacity and responsibility in somewhat different terms in each. Thus I apply CBDR&RC to mitigation responsibilities (Chapter 3), to the allocation of the costs of remedying adverse impacts of climate policies (Chapter 4), and to effort-sharing arrangements for generating climate finance (Chapter 5).¹⁷⁰

¹⁶⁵ Milan Brahmbhatt and Andrew Steer, "Mobilizing climate finance" in *International climate finance*, ed. Erik Haites (London: Routledge, 2013), 135.

¹⁶⁶ Cameron Hepburn, "International carbon finance and the clean development mechanism" in *The economics and politics of climate change*, ed. Dieter Helm and Cameron Hepburn (Oxford: Oxford University Press, 2009), 409.

¹⁶⁷ Chapter 4, section 4.4.1; Chapter 5, section 5.5.2.

¹⁶⁸ For further references to climate finance in the ethical literature, see Chapter 5, section 0.

¹⁶⁹ Compare Caney, "Just emissions": 281-82.

¹⁷⁰ Chapter 3, section 3.3; Chapter 4, section 4.3.3.; Chapter 5, section 5.4.

1.9.2 *Fragmented and coordinated approaches to institutional design*

A final challenge concerns the role of institutional constraints and reasonable pluralism in shaping the range of available policy instruments. These factors may bear on institutional design in a variety of ways. In the thesis I focus in particular on their relationship with the degree of international coordination required. This aspect is central to the analysis of climate finance in Chapter 5, but also features in the discussion of mitigation targets in Chapter 3. As noted in those chapters, a substantial amount of scholarly research has addressed the advantages and disadvantages of coordinated vis-à-vis fragmented (or “top-down” versus “bottom-up”) institutional frameworks for environmental effectiveness, equity and legitimacy.

Here I briefly note two important challenges arising in those chapters that this aspect of institutional design poses for efforts to implement moral principles. First, since parties to negotiations hold a range of conceptions about fairness, it may be very difficult to reach consensus on a simple yet authoritative normative framework that could guide decisions about the distribution of climate policy costs. Nevertheless, there are various other ways in which principles may inform coordinated effort-sharing arrangements, for example through a process where countries make successive rounds of national pledges that are then compared against a non-binding “equity reference framework”.¹⁷¹ Second, seeking to implement effort-sharing arrangements through multilateral coordination may pose difficult trade-offs between procedural and substantive fairness, as effective action may be stymied by cumbersome decision-making processes and institutional inertia.¹⁷²

1.10 Thesis structure

As indicated in previous sections of the introduction, all the chapters interlink in various ways. While addressing theoretical or policy questions to varying degrees,

¹⁷¹ Jennifer Morgan and David Waskow, “A new look at climate equity in the UNFCCC”, *Climate Policy* 14, no. 1 (2013): 18.

¹⁷² Chapter 3, section 3.3.3; and Chapter 5, section 5.3.1.

the chapters fall most neatly into those that address overall responsibilities of fairness in climate change negotiations and those that relate more specifically to responsibilities to provide funding for developing countries either to address climate change or the impacts of climate policies. The following chapters of the thesis are thus structured as follows:

- Part I. Characterising and distributing national responsibilities to address climate change
 - Chapter 2. On the concept of climate debt: Its moral and political value
 - Chapter 3. “If equity’s in, we’re out”: Scope for fairness in the next global climate agreement
 - Chapter 4. Regulating the “new tobacco”: Do those who lose out from climate policies deserve compensation?
- Part II. Designing fair institutions to finance action on climate change in developing countries
 - Chapter 5. Splitting the difference in global climate finance: Are fragmentation and legitimacy mutually exclusive?
 - Chapter 6. What should count as aid?
- Chapter 7. Conclusion

**Part I. Characterising and distributing national responsibilities
to address climate change**

Chapter 2. On the concept of climate debt: Its moral and political value

Jonathan Pickering and Christian Barry¹

Introductory note

This chapter was the first in the thesis to be submitted for publication. It represents an initial foray into climate ethics, taking as its starting point an issue that made international headlines at the time of the UN climate conference in Copenhagen in 2009. This collaborative project drew on Christian Barry's background in research on developing country debt as well as my interest in how responsibilities associated with climate change are framed in public debate.

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Abstract

A range of developing countries and international advocacy organisations have argued that wealthy countries, as a result of their greater historical contribution to human-induced climate change, owe a “climate debt” to poor countries. Critics of this argument have claimed that it is incoherent or morally objectionable. In this essay we clarify the concept of climate debt and assess its value for conceptualising responsibilities associated with global climate change and for guiding international climate negotiations. We conclude that the idea of a climate debt can be coherently formulated, and that while some understandings of the idea of climate debt could lead to morally objectionable conclusions, other accounts would not. However, we argue that climate debt nevertheless provides an unhelpful frame for advancing global justice through international climate negotiations—the only existing means of resolving political conflict over the collective action problems posed by human-induced climate change—due to its retrospective and potentially adversarial emphasis, and to problems of measurement.

2.1 Introduction

Do developed countries, as a result of their greater historical contribution to causing human-induced climate change, owe a “climate debt” to poor countries? Numerous developing countries and international advocacy organisations have argued that they do. They assert this on the ground that these countries have used more than their fair share of the Earth’s ability to absorb the greenhouse gas emissions that cause climate change. The resulting need to reduce emissions globally now constrains the ability of poorer countries to develop. Further, climate change is increasingly generating adverse impacts for poor countries, many of which are particularly vulnerable to a warming climate. This debt should be repaid, it is argued, through developed countries rapidly reducing their emissions and providing finance to help developing countries adopt low-emissions technologies and adjust to the adverse impacts of climate change. Many others, including senior officials of wealthy countries, on the other hand, have resisted these claims. They have done so principally by means of two arguments: that the idea of a climate debt makes no sense—we will call this *the incoherence argument*; or that employing climate debt as a frame for understanding climate related responsibilities will lead to morally objectionable conclusions—which we refer to as *the implausibility argument*.

Our aim in this essay is to clarify the idea of climate debt and assess its value for conceptualising responsibilities associated with climate change and guiding international climate negotiations. There are various ways in which responsibilities relating to climate change could be distributed. Invoking climate debts is one way of providing a “frame” for understanding how these responsibilities *should* be distributed. Frames represent “interpretive storylines that set a specific train of thought in motion, communicating why an issue might be a problem, who or what might be responsible for it, and what should be done about it”.¹ As such, they provide rationales for particular distributions of responsibilities, and involve distinctive

¹ Matthew C. Nisbet, “Communicating climate change: Why frames matter for public engagement”, *Environment: Science and Policy for Sustainable Development* 51, no. 2 (2009): 15.

forms of rhetoric. There may often be several possible frames in which complex policy issues can be encapsulated, and incompatibility among frames proposed by different actors may give rise to entrenched conflicts.² The analysis of conceptual “frames” for global policy debates is of significance to the broader question of global political justice insofar as such frames structure the interface between the moral arguments in which responsibilities of *distributive* justice are debated and determined, and the political conflicts and authoritative actions through which decisions are taken and executed as matters of *political* justice.

When assessing the value of particular frames, we can distinguish between ethical and political analyses. An ethical analysis of a frame examines whether the premises and line of reasoning it invokes are morally plausible. Political analysis of a frame seeks to determine whether it is likely to be a feasible and desirable means of advancing valuable goals.³ While political analysis may indicate whether a particular frame is likely to further the interests of the individual party proposing it, here we focus on the question of whether the frame of climate debt helps to resolve a collective action problem—in this case a fair allocation of responsibilities to address human-induced climate change.

Accordingly, our article proceeds along two tracks. In the first part of the paper, we provide an ethical analysis of climate debt arguments. We begin by giving examples of how the idea of climate debt has been employed recently in discussions of climate policy and identify five core propositions that appear to underlie the use of this framing concept. We explicate each of the propositions and examine whether they are individually or jointly vulnerable to the incoherence or implausibility arguments. Against critics of the idea of climate debt, we shall argue that climate debt is indeed a coherent concept, and that while *some* understandings of this idea could indeed lead to morally objectionable or

² Frank Fischer, *Reframing public policy* (Oxford: Oxford University Press, 2003).

³ Emphasising the ethical aspects of a particular problem may itself represent a political strategy—as in the case of successful efforts by activists to reframe debt relief for developing countries as a moral and religious issue rather than as a purely economic concern (J. Timmons Roberts and Bradley C. Parks, *A climate of injustice: Global inequality, north-south politics, and climate policy* (Cambridge, MA: MIT Press, 2007), 240)—but this is consistent with the distinction between forms of analysis drawn here.

implausible conclusions, it need not do so. Indeed, the climate debt frame highlights considerations that must be given significant weight in any fair agreement on climate-related responsibilities. In the second part of the paper, we provide a political analysis of climate debt arguments. Against proponents of the idea of climate debt, we argue that it provides a largely unhelpful and potentially counterproductive frame for guiding future international climate negotiations. While this frame may have played a valuable role in giving voice to the claims of some developing countries, we argue that there are alternative frames that are more likely to foster reflective deliberation and eventually cooperation in the form of binding agreements.

2.2 The use of climate debt

The theoretical roots of the concept of climate debt can largely be traced back to broader themes such as the global distribution of ecological resources and the allocation of responsibilities for addressing environmental harms. Since the early 1990s, theorists—notably in Latin America but also more broadly—have developed variations on the concept of “ecological debt” as a way of characterising unsustainable patterns of resource use, encompassing not only climate change but also overuse of other resources such as forests and fisheries.⁴ These accounts in turn have built on earlier theorists’ characterisations of global environmental issues as involving global commons or common pool resources⁵ as well as structuralist accounts of global economic relations.⁶ Climate debt (or carbon

⁴ See e.g. K.R. Smith, "Allocating responsibility for global warming: The natural debt index", *Ambio* 20, no. 95-96 (1991), Joan Martinez-Alier, "Distributional obstacles to international environmental policy: The failures at Rio and prospects after Rio", *Environmental Values* 2 no. 97-124 (1993); U.T. Srinivasan et al., "The debt of nations and the distribution of ecological impacts from human activities", *Proceedings of the National Academy of Sciences USA* 105, no. 5 (2008), Andrew Simms, *Ecological debt: Global warming and the wealth of nations*, 2nd ed. (London: Pluto Press, 2009).

⁵ Garrett Hardin, "The tragedy of the commons", *Science* 162, no. 3859 (1968), Elinor Ostrom, *Governing the commons: The evolution of institutions for collective action* (Cambridge; New York: Cambridge University Press, 1990).

⁶ Roberts and Parks, *A climate of injustice*, 165.

debt as it also sometimes called⁷) is ordinarily viewed as a component of a broader ecological debt.⁸ Such debts are commonly conceived as both *intergenerational*—accrued by current people and owed to future generations—and *international*—accrued by the populations of some countries and owed to the populations of other countries. Accounts of climate debt vary in their relative emphasis on each dimension.⁹

Although arguments asserting climate debt are not altogether new to international climate negotiations conducted under the United Nations Framework Convention on Climate Change (UNFCCC), they have recently come into increased currency, particularly since the lead-up to the UNFCCC conference in Copenhagen in 2009. Climate debt arguments have been raised in formal submissions (notably by Bolivia, the most vocal proponent of climate debt in the UNFCCC negotiations), draft negotiating texts, and arguments by activists and non-government organisations seeking to influence the negotiations.¹⁰

While calls for repayment of climate debt have been highly visible in media reporting of recent climate change negotiations, they have been omitted from resulting agreements, with other principles for allocating responsibilities such as “comparable effort” or equity gaining far more traction. However, minority discourses often garner significant attention in negotiations due to the consensus-based nature of decision-making under the UNFCCC. Although Bolivia’s attempt to block consensus single-handedly at the 2010 Cancún conference was neutralised by a procedural workaround, such tactics may not always be available

⁷ Carbon being a component of major greenhouse gases emitted through human activity (including carbon dioxide and methane).

⁸ See e.g. Tim Hayward, “Global justice and the distribution of natural resources”, *Political Studies* 54, no. 2 (2006); Edward A. Page, “Intergenerational justice of what: Welfare, resources or capabilities?”, *Environmental Politics* 16, no. 3 (2007). Simms uses ecological debt in a narrow sense to refer primarily to climate debt (Simms, *Ecological debt: Global warming and the wealth of nations*).

⁹ Compare Hayward, “Global justice and the distribution of natural resources”, W.J.W. Botzen, J.M. Gowdy, and J.C.J.M. van den Bergh, “Cumulative CO₂ emissions: Shifting international responsibilities for climate debt”, *Climate Policy* 8 (2008).

¹⁰ See, for example, Naomi Klein, “Climate rage,” *Rolling Stone*, 11 November 2009.

in future, and it remains important to engage substantively with claims about climate debt.

2.3 Core elements of the climate debt idea

While arguments for climate debt vary in some respects, the focus in negotiations has been mainly on international rather than intergenerational aspects of climate debt, and our essay will accordingly focus on arguments for this type of debt.¹¹ We interpret common arguments for climate debt as having the following features:

A1. Moral responsibilities. Countries that have emitted more than their fair share of the Earth's capacity to safely absorb emissions have moral responsibilities towards low-emitting countries and those vulnerable to the impacts of climate change.

A2. Characterisation of these responsibilities as debts. The stringency of these moral responsibilities is such that they constitute a debt that is claimable as a matter of right by the agents to whom the debt is owed.

A3. The content of the responsibility. A primary factor in calculating the extent of each country's debt is the magnitude of its share of global cumulative emissions since the Industrial Revolution.

A4. Identity of debtors and creditors. The debt is owed specifically by developed countries towards developing countries.

A5. Form of repayment required. Climate debt must be repaid by (i) distributing emissions rights in ways that effectively compensate developing countries for historical overuse and allow developing countries' emissions to rise in order to accommodate their development needs (repayment of "emissions debt"); and (ii) compensating developing countries for the adverse effects of climate change (repayment of "adaptation debt").¹²

¹¹ Of course the idea of international climate debt has an intergenerational element, since responsibilities are being attributed to the present populations of developed countries for 'debts' acquired largely by their ancestors.

¹² This distinction has been highlighted in Bolivia, "Commitments for Annex I parties under paragraph 1(b)(i) of the Bali Action Plan: Evaluating developed countries' historical climate debt to

We discuss these elements in turn, examining as we go whether they involve propositions that are vulnerable to the incoherence or implausibility arguments. We focus primarily on arguments A2 and A3, which we see as representing the core issues that are specifically contested in the context of climate debt, while briefly discussing the other arguments.

2.4 Ethical analysis

2.4.1 *Threshold issues: causal and moral responsibilities associated with climate change*

The first premise of the argument (A1) involves both factual and moral claims. The factual claims are relatively uncontroversial. It is now increasingly accepted that the Earth has a finite capacity over the very long term to absorb emissions.¹³ Developed countries¹⁴ have emitted the larger proportion of cumulative emissions since the Industrial Revolution and their per capita emissions are higher than those of developing countries, even though developing countries' current aggregate annual emissions now exceed those of developed countries, largely due to the rapid growth of populous countries such as China and India.¹⁵ There is also widespread agreement that poorer countries are particularly vulnerable to climate change. Not only do the impacts of climate change affect access to goods such as health protection, food, water and shelter, but constraints on emissions may (in the absence of support for costly low-emitting technologies) have adverse impacts on the livelihoods of poor people.¹⁶

developing countries (25 april 2009)" (Bonn: UNFCCC, 2009) and Climate-justice.info, World people's conference on climate change and the rights of Mother Earth, Cochabamba, Bolivia (19-20 april 2010): Outcome on climate debt 2010, Accessed 20 December 2013. <http://climate-justice.info/2010/04/world-peoples-conference-outcome-on-climate-debt/>.

¹³ Allen et al., "Warming caused by cumulative carbon emissions towards the trillionth tonne".

¹⁴ While noting some complexities about the precise categorization of parties to the UNFCCC, for simplicity we will generally use 'developed' countries to refer to parties listed in Annex I of the UNFCCC, and 'developing' countries to refer to non-Annex I parties.

¹⁵ World Bank, "Development and climate change" *World Development Report 2010* (Washington, DC: World Bank, 2009).

¹⁶ Simon Caney, "Cosmopolitan justice, rights and global climate change", *Canadian Journal of Law and Jurisprudence* 19, no. 2 (2006), Caney, "Climate change, human rights and moral thresholds".

The moral claims in A1 are somewhat more contentious, but some possible theoretical bases for climate debt rely on accounts of responsibilities relating to natural resource use that are very widely held. The idea that the atmosphere is a global commons has been argued for or simply assumed by philosophers and economists of different temperaments and political stripes.¹⁷ Similarly, there is considerable support for the idea that commons—whether conceived as originally owned by humankind in general or as unowned—give rise to certain moral responsibilities relating to fair use.¹⁸ The best-known account of such responsibilities is John Locke’s proviso that the use of natural resources be constrained by the requirement to leave “enough, and as good” for others.¹⁹ A related and more recent formulation that has gained currency among both researchers and negotiators is that of the equitable distribution of ‘ecological space’.²⁰

Given the Earth’s limited capacity to absorb emissions safely, most people generally accept that global emissions should be subject to some criterion of fair use. Variants on Locke’s proviso, for example, have been employed by a number of authors in support of arguments for roughly equal per capita allocations of emissions rights.²¹ Whether fair-use criteria require equality or sufficiency in the allocation of emissions remains subject to dispute.²² But developed countries seem to have used more than their fair share on any plausible understanding of

¹⁷ See, for example, William D Nordhaus, *Managing the global commons: The economics of climate change* (Cambridge, MA: MIT Press, 1994); Gardiner, *A perfect moral storm: The ethical tragedy of climate change*.

¹⁸ see e.g. Hayward, "Global justice and the distribution of natural resources"; Vanderheiden, *Atmospheric justice: A political theory of climate change*.

¹⁹ John Locke, *Two treatises of government*, ed. Peter Laslett (Cambridge: Cambridge University Press, 1988 [1690]), 288–89.

²⁰ See, for example, Page, "Intergenerational justice of what: Welfare, resources or capabilities?"; Tim Hayward, "Human rights versus emissions rights: Climate justice and the equitable distribution of ecological space", *Ethics & International Affairs* 21, no. 4 (2007); Bolivia, "Commitments for Annex I parties under paragraph 1(b)(i) of the Bali Action Plan: Evaluating developed countries' historical climate debt to developing countries (25 april 2009)".

²¹ See e.g. Peter Singer, *One world: The ethics of globalisation* (Melbourne: Text, 2002); Vanderheiden, *Atmospheric justice*.

²² Luc Bovens, "A Lockean defense of grandfathering emission rights" in *The ethics of global climate change*, ed. Denis G. Arnold (Cambridge, UK: Cambridge University Press, 2011).

this notion. We conclude that the propositions in A1 are defensible against both the incoherence and implausibility arguments.

2.4.2 *Guiltless responsibility, excusable ignorance and the intergenerational objection*

One fundamental objection to the idea of climate debt is that even if excessive emissions result in some kind of moral obligation, this falls short of being an obligation of “debt”, as asserted in A2.

This type of argument was made, for example, at the Copenhagen conference by the United States’ chief climate negotiator Todd Stern:

I actually completely reject the notion of a debt or reparations or anything of the like. [...] Let’s just be mindful of the fact for most of the 200 years since the Industrial Revolution, people were blissfully ignorant of the fact that emissions cause the greenhouse effect. It’s a relatively recent phenomenon. It’s the wrong way to look at this. We absolutely recognize our historical role in putting emissions in the atmosphere that are there now. But the sense of guilt or culpability or reparations, I categorically reject that.²³

These objections are also typically advanced against premise A3—the claim that responsibility for debt should be apportioned largely according to a country’s cumulative emissions. We consider in turn three interconnected objections to climate debt that may be distinguished in Stern’s statement.

2.4.2.1 *Guiltless responsibility*

The objection from guiltless responsibility asserts that it only makes sense to speak of debt where there is culpability or a responsibility to provide reparations, but it does not follow from the fact that wealthy countries are responsible for having caused emissions that they were *culpable* for having done so. But surely, as Bolivia’s ambassador to the United Nations pointed out in his response to Stern’s

²³ Darren Samuelsohn, "No 'pass' for developing countries in next climate treaty, says U.S. Envoy" *New York Times*, 9 December 2009; see also Bryan Walsh, "Do rich nations owe poor ones a climate debt?," *Time*, 10 December 2009.

statement, the point of discussing climate debt need not be to assign guilt, but merely *responsibility* for bearing cost.²⁴ As a general matter, liability for debt does not imply guilt or direct culpability. We can become indebted by bad luck, even when we have acted prudently. Consider, for example, ordinary contractual debts, which are acquired through reciprocal arrangements freely entered into, and are frequently associated with legal obligations. It is true that contractual debtors are thought to be responsible or liable for repaying their debts, but this is quite distinct from responsibility that carries connotations of blameworthiness (although *failure* to service these debts may of course carry such connotations).

So too with respect to non-contractual debts.²⁵ While we may speak coherently of non-contractual debts that result from deliberate wrongdoing (resulting, for example, in a figurative “debt to society”) or negligent harm under tort law, debts may also arise in circumstances involving neither voluntary bargaining nor culpable harm. One such circumstance, which seems particularly pertinent to claims of climate debt, is unjust enrichment. If you receive a mistaken payment, for example, you are by law strictly liable to repay it, even if you were unaware that you were not entitled to it.²⁶ The same applies to cases in which you appropriate (however innocently) that which you are not entitled to appropriate.

The fact that overuse of the earth’s emissions absorptive capacity was neither the subject of a contractual resource-sharing arrangement nor clearly the result of a deliberate intent to appropriate that capacity does not provide a convincing objection to the idea that there are climate debts.

²⁴ Climate Justice Now, Bolivia responds to U.S. On climate debt: “If you break it, you buy it.”, 11 December 2009, Accessed 20 December 2013. <http://www.climate-justice-now.org/bolivia-responds-to-us-on-climate-debt-if-you-break-it-you-buy-it/>. Compare also Henry Shue, “Global environment and international inequality”, *International Affairs* 75, no. 3 (1999): 535 and Vanderheiden, *Atmospheric justice*, 174.

²⁵ Joan Martinez-Alier, *The environmentalism of the poor: A study of ecological conflicts and valuation* (Cheltenham, UK; Northampton, MA: Edward Elgar, 2002), 228.

²⁶ Peter Birks, *Unjust enrichment* (Oxford, UK: Oxford University Press, 2003), 6–9.

2.4.2.2 Excusable ignorance

The objection from excusable ignorance asserts that because countries were reasonably ignorant of the harmful effects of emissions until relatively recently, they should not be held morally responsible for those emissions or their effects.²⁷ Since there is no moral responsibility, there is no debt involved.

Although reasonable ignorance may ordinarily be a legitimate defence to claims of negligence in tort law, it may not be sufficient in all circumstances to provide relief from liability to bear cost when damage has occurred. Bolivia's response to the United States' statement suggests some parallels—albeit using examples that do not involve common pool resources—where responsibility for inadvertent harm may arise:

Admitting responsibility for the climate crisis without taking necessary actions to address it is like someone burning your house and then refusing to pay for it. Even if the fire was not started on purpose, the industrialised countries, through their inaction, have continued to add fuel to the fire. As a result they have used up two thirds of the atmospheric space, depriving us of the necessary space for our development and provoking a climate crisis of huge proportions. ... We are not assigning guilt, merely responsibility. As they say in the US, if you break it, you buy it.²⁸

Are these analogies and arguments cogent? The second (“shop breakage”) example in Bolivia's response is a common example of a strict liability rule. However, it is not particularly apt for thinking about climate debt, since in such cases strict liability is generally assumed only after the agent is taken to have accepted the terms and conditions of entry analogous to a contractual arrangement.

What about the first (“burning house”) analogy? Should the neighbour be held responsible if they unintentionally (and excusably) allow a fire on her property to

²⁷ This argument is generally extended both to emissions of previous generations and emissions of the present generation before the point at which excusable ignorance no longer applied.

²⁸ Climate Justice Now, "Bolivia responds to U.S. On climate debt: 'If you break it, you buy it.'".

escape to a neighbouring property? Our willingness to attribute liability to bear cost in such cases will surely depend in some measure upon whether some element of fault (such as recklessness or negligence) can be identified—the more reckless or negligent the conduct, the more it seems appropriate to allocate most or all of the cost to the agent causing harm. But how should we allocate costs in the absence of any fault whatsoever?

As a matter of international law, the answer to this question is not entirely clear. In cases of transboundary pollution, states are not usually held liable for “harm resulting from risks of which the state concerned was not and could not have been objectively aware”.²⁹ While strict liability may apply to certain instances of harm from ultra-hazardous activities,³⁰ it is widely considered that state liability for climate-induced damage would require a failure of due diligence by a state to regulate greenhouse gas emissions.³¹

As a moral matter it is ordinarily preposterous to leave innocent victims to bear the entire cost of accidents that have been caused faultlessly by others.³² If a fire is started innocently and burns down a house, we are faced with a choice of how distribute the cost of the ensuing harm between these two innocent people and uninvolved third parties.³³ Cost sharing between those who are causally responsible for the damage, those who suffer its damages, and third parties may be a more appropriate solution, particularly where others have much deeper pockets than the victim.³⁴ Some have argued on these grounds that the current

²⁹ Birnie, Boyle, and Redgwell, *International law and the environment*, 217.

³⁰ Alex Kiss and Dinah L. Shelton, "Strict liability in international environmental law" in *Law of the sea, environmental law and settlement of disputes: Liber amicorum Judge Thomas A. Mensah*, ed. Tafsir Malick Ndiaye and Rüdiger Wolfrum (Leiden: Brill Academic Publishers, 2007).

³¹ Michael G Faure and André Nollkaemper, "International liability as an instrument to prevent and compensate for climate change", *Stanford Journal of International Law* 43, no. 123-179 (2007), Christina Voigt, "State responsibility for climate change damages", *Nordic Journal of International Law* 77, no. 1-2 (2008).

³² Not always, because it may well be plausible to allocate costs in this way if the agent who has suffered the damage has very deep pockets and those who non-culpably caused it has very shallow ones.

³³ Compare Vanderheiden, "Globalizing responsibility for climate change".

³⁴ Guido Calabresi, *The cost of accidents: A legal and economic analysis* (New Haven, CT: Yale University Press, 1970).

international law of transboundary harm fails to protect adequately the victims of such harm and thus stands in need of substantial reform.³⁵

Even if excusable ignorance were to provide exemption from liability for climate debt, states may nevertheless subsequently acquire responsibility for taking on additional cost to address the harm through subsequent acts or inaction undertaken after the country acquired knowledge of the harmful effects of the earlier act. Importantly, we will attribute greater responsibility to an actor for exacerbating actions (such as adding fuel to a fire, or continuing to emit at unsustainable levels), and for failing to assist those at risk when they could do so at very low cost.³⁶

The objection from excusable ignorance would no longer apply once the risks associated with greenhouse gas emissions became widely recognised internationally. For this reason, a number of authors have proposed that liability for emissions could begin at a point such as 1990, when the first report of the Intergovernmental Panel on Climate Change was published.³⁷ And it could plausibly be argued that liability should begin significantly earlier than this.³⁸ The argument from excusable ignorance would therefore not show that the idea of climate debt is incoherent or implausible, but only that we should in some circumstances *discount* the amount owing.

2.4.2.3 The intergenerational objection

The intergenerational objection claims that it is implausible to hold countries responsible now for conduct that was undertaken before anyone living in them was alive. Objections to the intergenerational transmission of debts have a long

³⁵ Noah Sachs, "Beyond the liability wall: Strengthening tort remedies in international environmental law", *UCLA Law Review* 55, no. 4 (2008).

³⁶ Christian Barry and Gerhard Øverland, "On the implications of failing to assist" in *Unpublished manuscript* (2011).

³⁷ Vanderheiden, *Atmospheric justice*, 190.

³⁸ In morality (if not always in law), the recognition that one's conduct may carry risk of doing severe harm gives one a relatively stringent (though of course defeasible) reason not to engage in it until its effects are further understood, and to compensate victims in case these risks ripen into injuries (Carl Cranor, "Some moral issues in risk assessment", *Ethics* 101, no. 1 (1990), Christian Barry, "Applying the contribution principle", *Metaphilosophy* 36, no. 1-2 (2005)).

pedigree.³⁹ However, while individuals generally do not inherit personal debts from one generation to the next, this is not the case for sovereign debt, which can remain owed by a country over successive generations. *Pacta sunt servanda*, or “agreements must be kept”, is the basic norm that underlies the present treatment of sovereign debt contracts, so that when a sovereign borrower defaults it is treated as being in breach of contract and under obligation to repay the loan.⁴⁰ Unless a creditor decides to “forgive” (or cancel) a debt, the creditor retains full rights to claim it.

There are good incentive-based reasons to uphold intergenerational responsibilities of this sort. Since intergenerational transmission of sovereign debts facilitates borrowing by boosting lenders’ assurance of ultimate repayment, it is ordinarily justified as facilitating a beneficial practice. Inter-generational transmission may also be justified in the case of non-contractual international debts. Intergenerational transmission of non-contractual debts could serve a number of important functions, not least by providing incentives for countries to take a more cautious approach when engaging in activities that may pose long-term risks to the populations of other countries.

This is not to say that the transmission of debts should not in some ways be limited by consideration of the circumstances under which the debt was initially acquired. With respect to contractual sovereign debt, for example, there are precedents for the cancellation of “odious debt” acquired by illegitimate heads of state.⁴¹ Non-contractual debts (such as reparative debts) may also be subject to limitation over time, for example as structures of expectation form around resources that were originally appropriated unjustly, or if the background

³⁹ Janna Thompson, *Intergenerational justice: Rights and responsibilities in an intergenerational polity* (New York: Routledge, 2009), 120.

⁴⁰ Christian Barry and Lydia Tomitova, “Fairness in sovereign debt”, *Ethics & International Affairs* 21, no. S1 (2007).

⁴¹ Ashfaq Khalfan, Jeff King, and Bryan Thomas, “Advancing the odious debt doctrine” *Centre for International Sustainable Development Law working paper* (Montreal: McGill University, 2003), Jonathan Shafter, “The due diligence model: A new approach to the problem of odious debts”, *Ethics & International Affairs* 20 no. 1 (2007).

distribution of economic and social resources among agents and victims changes.⁴²

Insofar as developed countries owe a climate debt to developing countries, it is hard to argue that such debts are odious. Indeed, the great wealth of many developed countries is in large measure dependent on their having made use of the global commons in excess of their fair share. While an uneven global pattern of emissions commenced when the Earth's ability to absorb emissions was plentiful, that capacity is now scarce, making the responsibility to account for the emissions debt of past generations correspondingly greater.⁴³

One could also argue that current generations should be held responsible for historical emissions because they have *benefited from* those emissions in the form of the higher standards of living produced by industrialisation.⁴⁴ Do agents have responsibilities to service debts that were incurred by them without their knowledge? There are certainly cases in which it seems that they do. Suppose, for example, you discover that something you possess has come to you as a result of wrongdoing, and that you benefit at the expense of those to whom wrongdoing has been done. You learn that a car that your mother gave you as a gift was stolen. What are your responsibilities in this case? In the first instance it seems you have a duty to relinquish the benefits of the wrongdoing and return the property to its rightful owner.⁴⁵ But a similar principle seems to apply in cases where direct restitution—giving a discrete and wrongfully appropriate “thing” back—is not possible.⁴⁶ The crucial point, as David Miller points out, is “that a claim

⁴² Jeremy Waldron, "Superseding historic injustice", *Ethics* 103, no. 1 (1992).

⁴³ Compare *ibid.*, 24–25.

⁴⁴ Lukas H. Meyer and Dominic Roser, "Climate justice and historical emissions", *Critical Review of International Social and Political Philosophy* 13, no. 1 (2010): 234.

⁴⁵ It does not seem important that the person making the bequest was your mother – your duty to disgorge the benefit would hold even if it were given to you by a stranger. Nor does it seem to matter whether your mother knew or should have known of these abuses. What matters in the first instance is that you have been unjustly enriched (see, e.g. Birks, *Unjust enrichment*; Lionel D Smith, *The law of tracing* (Oxford: Clarendon Press, 1997)).

⁴⁶ If you discover, for example, that your father's bequest to you upon his death is the result of profits from a mining company that he owns whose extraction practices inflict serious human rights violations on its workers, you should disgorge this benefit. And you should redistribute these gains to those who have been disadvantaged by the wrongdoing that was materially involved in

to inherit must depend on the bequeathers having a valid title to the assets they are bequeathing".⁴⁷

Some deny that there is a direct link between a unique, identifiable beneficiary and a unique, identifiable victim of unfair resource usage. However, in the case of climate change, both the benefits and costs of climate change have been transferred across generations through individuals' participation in ongoing economic structures.⁴⁸ While some developing countries have acquired some benefits (and great benefits in some cases) from industrialisation (in the form of technology, physical and human capital, and public goods), it seems hard to argue that they have by and large enjoyed a fair share of them.⁴⁹

2.4.3 Identity of debtors and creditors

Proponents of climate debt generally argue that climate debt is owed by "developed countries" towards "developing countries" (A4).⁵⁰ This claim may seem to provide a broad-brush approximation of who owes debts to whom based on trends in global emissions, but it is problematic. A range of countries now reasonably argue that the categories of "developed" and "developing" countries as defined by the UNFCCC—which have remained largely static since its inception—may not neatly map objective differences in wealth and emissions.⁵¹ Moreover, a number of countries currently classed as developing would likely also have exceeded their fair share or will soon do so.⁵² There are also now a large number

producing them insofar as this is possible (cf. Robert E Goodin and Christian Barry, "Benefitting from other people's wrongdoing" in *Unpublished working paper* (2011)).

⁴⁷ Miller, *National responsibility and global justice*, 154.

⁴⁸ Shue, "Global environment and international inequality": 536–37.

⁴⁹ *Ibid.*: 534.

⁵⁰ Bolivia, "Commitments for Annex I parties under paragraph 1(b)(i) of the Bali Action Plan: Evaluating developed countries' historical climate debt to developing countries (25 april 2009)", 46.

⁵¹ Depledge, "The road less travelled: Difficulties in moving between annexes in the climate change regime"; Jonathan Pickering, Steve Vanderheiden, and Seumas Miller, "'If equity's in, we're out': Scope for fairness in the next global climate agreement", *Ethics & International Affairs* 26, no. 4 (2012) [Chapter 2].

⁵² Jiahua Pan and Ying Chen, "Carbon budget proposal: A framework for an equitable and sustainable international climate regime", *Social Sciences in China* 31, no. 1 (2010): 20.

of wealthy individuals in otherwise low-income countries whose per capita emissions are comparable to average per capita emissions of wealthy countries.⁵³

In order to be plausible, climate debt arguments will need to move away from a rigid emphasis on developed and developing countries as the only categories of analysis and identify debtors as those individuals or groups that have used more than their fair share of the Earth's emissions absorptive capacity, however fair shares are defined.

2.4.4 Forms of repayment

The distinction between emissions debt and adaptation debt (A5) may provide a useful way of delineating climate-related responsibilities and associated forms of repayment. The specific distinction has not been elaborated, to our knowledge, in academic literature,⁵⁴ but other authors have highlighted the distinct ethical responsibilities associated with mitigation and adaptation.⁵⁵

Climate debt proposals generally place strong emphasis on the idea that emissions debt should be discharged primarily by the reallocation of future emissions rights to offset past overuse. However, once we acknowledge that climate debt could be repaid in more than one currency, we could envisage the possibility of other forms of repayment, provided that they are agreed to and yield equivalent benefits for creditors.⁵⁶ One alternative could be to allocate prospective emissions entitlements on an equal per capita basis, but to compensate for retrospective overuse by imposing additional responsibilities on high-emitting countries for financing any reductions needed in other countries to meet their per capita

⁵³ Shoibal Chakravarty et al., "Sharing global CO₂ emission reductions among one billion high emitters", *Proceedings of the National Academy of Sciences USA* 106 (2009).

⁵⁴ Although Neumayer has proposed a formula for quantifying countries' 'Historical Emission Debt' (Eric Neumayer, "In defence of historical accountability for greenhouse gas emissions", *Ecological Economics* 33, no. 2 (2000): 186).

⁵⁵ Sverker C. Jagers and Göran Duus-Otterström, "Dual climate change responsibility: On moral divergences between mitigation and adaptation", *Environmental Politics* 17, no. 4 (2008); Vanderheiden, "Globalizing responsibility for climate change".

⁵⁶ Compare Simon Caney, "Justice and the distribution of greenhouse gas emissions", *Journal of Global Ethics* 5, no. 2 (2009): 137.

entitlements. Thus financing could address both the retrospective element of emissions debt as well as servicing adaptation debt.

2.5 Political analysis

Even if we accept that the idea of climate debt is coherent and morally plausible, this does not mean that it must necessarily be useful for informing climate negotiations. In this section we provide a political analysis of climate debt arguments, and conclude that their future political value is likely to be quite minimal.

2.5.1 Measurement problems

When compared with harms to poorer countries resulting from other historical acts (such as slavery and colonialism), the prospect of quantifying responsibilities for climate-related harms seems at first glance to be much easier. However, while relatively sound country-level emissions data is available for recent decades, its coverage becomes progressively limited for decades preceding 1990, and there are a number of other methodological choices that add further complexity to the accounting task.⁵⁷ As noted above, since the idea of climate debt itself does not necessarily imply debt for all historical emissions, this is not a decisive objection to the application of the concept. However, it does suggest that those arguing in favour of an expansive notion of liability for historical emissions should take into account the very real problems of quantifying pre-1990 emissions, as well as the ethical complexity—for reasons rehearsed above—of allocating responsibility for such emissions. If problems of quantification proved insuperable, there may be other ways of taking a broader notion of historical responsibility into consideration. For example, it could shift the burden of proof onto developed countries to demonstrate why they should not take on a greater share of the costs of adaptation and mitigation than they otherwise would on the basis of their

⁵⁷ Posner and Weisbach, *Climate change justice*, Niklas Höhne et al., "Contributions of individual countries' emissions to climate change and their uncertainty", *Climatic Change* 106, no. 3 (2011).

current emissions alone.⁵⁸ The problem, however, is that unless reasonably accurate estimates of climate debt can be produced, assertions of climate debt are likely to be interpreted more as aggrieved political rhetoric than as considered policy proposals. As such, these arguments are more likely to undermine reflective deliberation than to foster it, and consequently reduce the prospects for binding agreements on climate-related responsibilities.

2.5.2 *Rhetorical emphasis*

Climate debt represents one of several possible frames for characterising the responsibilities to address climate change outlined so far in our article. Identifying frames that resonate with others is an important component in the emergence of norms of international cooperation.⁵⁹ However, frames may serve a broader range of political purposes by virtue of their rhetorical emphasis. In a related context John Dryzek usefully distinguishes between “bonding rhetoric”, which aims to motivate people who are already similarly disposed, and “bridging rhetoric” that aims to reach (and persuade) an audience whose dispositions are different.⁶⁰ Both forms of rhetoric, Dryzek points out, can have value and can play an important role in public deliberation about political issues.⁶¹ Bridging rhetoric is frequently preferable as a means of facilitating reflective deliberation and cooperation. However, bonding rhetoric can help to mobilise dispossessed groups and bring wider public attention to their political concerns. Just which form of rhetoric is of greatest value depends highly on context, and it is also actor-specific: reflective public deliberation may be best promoted overall if some actors employ bonding rhetoric while others employ bridging rhetoric.

Climate debt is best characterised as a form of bonding rhetoric. It is notable for its adversarial emphasis on dividing the world into debtors and creditors, where the former group is comprised of poorer countries and the latter group richer

⁵⁸ Compare Barry, "Applying the contribution principle".

⁵⁹ Martha Finnemore and Kathryn Sikkink, "International norm dynamics and political change", *International Organization* 52, no. 4 (1998).

⁶⁰ John S. Dryzek, "Rhetoric in democracy: A systemic appreciation", *Political Theory* 38, no. 3 (2010).

⁶¹ *Ibid.*, 330–32.

countries. In this sense, the rhetoric of climate debt is consistent with and expressive of the oppositional tactics used by some of its main advocates, the Latin American ALBA group.⁶² At first glimpse the rhetoric of climate debt may seem to exemplify the commonly observed technique of seeking to establish a new norm by grafting it onto an existing one (namely the obligation to repay conventional debts).⁶³ However, the appeal of the idea to constituencies in developing countries and international advocacy communities arguably derives more from the fact that it inverts the prevailing narrative according to which poorer countries are economically indebted to wealthy ones.⁶⁴

Regardless of its value as a bonding mechanism, it could be argued that the adversarial approach implied by climate debt has significant value for the broader system of climate governance by holding richer countries to account. Indeed the use of climate debt has likely helped to attract attention to the concerns of countries and civil society groups that typically have little influence in climate negotiations. However, given the nature of the collective action problem involved in addressing climate change, a multilateral framework freely accepted by a consensus or near-consensus of the 195 parties to the UNFCCC is required to address climate change effectively. Overcoming the mistrust that has plagued climate negotiations since their inception will require serious efforts on the part of both developed and developing countries to adopt mutually acceptable frames for collective action. In this context, bridging rhetoric has a greater prospect of facilitating a meaningful and reasonably fair agreement. The bonding rhetoric of climate debt may at best serve to challenge the intransigence of countries that have failed so far to take sufficiently strong action to curb climate change. But it is highly unlikely to provide the foundation for a specific policy framework for allocating responsibilities among countries. At worst the idea of climate debt may

⁶² ALBA translates in full as 'Bolivarian Alliance for the Peoples of Our America'. The main countries negotiating as part of the group in UNFCCC negotiations are Venezuela, Bolivia, Cuba, Ecuador and Nicaragua (Hayley Stevenson, "Representing "the peoples"? Post-neoliberal states in the international climate negotiations " *Working Paper 2011/1* (Canberra: Centre for Deliberative Democracy and Global Governance, The Australian National University, 2011), 8).

⁶³ Compare Finnemore and Sikkink, "International norm dynamics and political change": 908.

⁶⁴ Compare Simms, *Ecological debt*, 13.

be perceived therefore as a mere slogan, in the process tarring the idea of climate justice (which is frequently also voiced by the same actors) with the same brush. Understandably then, many developing countries (including highly vulnerable small island states) have themselves eschewed the rhetoric of climate debt in favour of other strategies for boosting collective responsibilities to address climate change.

Furthermore, as Stern's statement suggests, many developed countries link the idea of debt with that of reparations, which bears associations with uncomfortable and politically contentious issues such as reparations for slavery and colonial injustices. If the climate debt arguments are sound, then the fact that some countries associate it with other notions of obligation that they reject does not of course justify discarding the concept. But it may make it less feasible to employ this concept in support of a meaningful and reasonably fair agreement on climate-related responsibilities.

Addressing the problem of climate change requires not only taking account of past patterns of emissions, but also working out a fair distribution of rights and responsibilities for the future.⁶⁵ Developing countries' emissions are growing rapidly, and will eventually exceed those of developed countries even in cumulative terms. Thus some countries that were previous creditors may ultimately become debtors, and vice versa.⁶⁶ The idea of climate debt is capable in principle of representing future as well as present liabilities, and it does not seem to be inherently incompatible with incorporating distributional considerations (including a country's capacity to pay) as well. Nevertheless, use of the term as a frame for characterising climate-related responsibilities poses the risk of overemphasising retrospective liability at the expense of future distributive concerns.

These objections to climate debt as a rhetorical frame are by no means decisive, but they do give us good reason to explore other formulations that could provide a

⁶⁵ Vanderheiden, "Globalizing responsibility for climate change".

⁶⁶ Botzen, Gowdy, and van den Bergh, "Shifting international responsibilities for climate debt".

more constructive approach—emphasising bridging over bonding rhetoric—to framing and distributing responsibilities in a morally defensible manner. Considerations of space preclude a detailed discussion of alternatives, but we note one example briefly. The concept of a global “carbon budget” is being used increasingly in scientific and policy analysis for quantifying the maximum level of cumulative global emissions that is permissible over time to avoid dangerous climate change.⁶⁷ The concept of a carbon budget may encompass both forward-looking and backward-looking considerations. As such, while the carbon budget concept is compatible with recognition of the existence of climate debt, the former does not depend on positing the latter. Although some of the terminology associated with a budget may appear similar to that of climate debt (e.g. some countries’ budgets may be in “deficit” while others are in “surplus”), the carbon budget idea does not highlight a divisive two-way relationship between debtors and creditors. Instead, it suggests that all countries participate in a broader common (though of course contentious) enterprise of “balancing the budget”.

2.6 Conclusion

In this essay we have argued that climate debt is a coherent idea that can potentially be used to express a plausible account of moral responsibilities related to climate change provided that its scope is clearly circumscribed. We have also argued, however, that climate debt has at best a limited role to play in negotiations, and that other frames are likely to present more promising means for promoting a reasonably fair distribution of climate change related responsibilities. Given the mistrust among parties currently impeding effective coordinated action on climate change, parties concerned about climate justice

⁶⁷ See for example Allen et al., “Warming caused by cumulative carbon emissions towards the trillionth tonne”; TERI, “Right to sustainable development: An ethical approach to climate change” (New Delhi: The Energy and Resources Institute (TERI), 2009); WBGU, “Solving the climate dilemma: The budget approach” (Berlin: German Advisory Council on Global Change (WBGU), 2009). Another possible frame referred to above is the idea of “ecological space” (or similar terms such as “atmospheric space” or “development space”).

may be more likely to present a workable basis for advancing this aim by proposing frames that seek to bridge rather than exacerbate existing divides.

The example of climate debt may yield broader implications for the relationship between theory and policy. The rhetorical elements that accompany the use of certain normative concepts can impact significantly the degree to which arguments invoking them will foster more reflective public deliberation and help resolve collective action problems. For this reason, even if we find that a normative concept may have some plausibility in theory, we need to assess at the very least its feasibility and rhetorical implications before assuming it has merit as a specific device for advancing global justice.

Chapter 3. “If equity’s in, we’re out”: Scope for fairness in the next global climate agreement

Jonathan Pickering, Steve Vanderheiden, and Seumas Miller¹

Introductory note

As with the previous chapter, this chapter begins with a discursive frame that is contested in climate negotiations, namely that of equity. While Chapter 2 represented more of a critique of a particular frame, Chapter 3 broadens out the analysis to present a positive proposal for a fair and feasible long-term agreement on climate change. Collaboration on this chapter originated in a working paper that presented documentary analysis of countries’ views on fairness in climate change negotiations.²

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¹ Published as Jonathan Pickering, Steve Vanderheiden, and Seumas Miller. ““If equity’s in, we’re out”: Scope for fairness in the next global climate agreement.” *Ethics & International Affairs* 26, no. 4 (2012): 423-43.

² Pickering, Vanderheiden, and Miller, “Ethical issues in the United Nations climate negotiations: A preliminary analysis of parties’ positions”.

Abstract

At the United Nations climate change conference in 2011, parties decided to launch the “Durban Platform” to work towards a new long-term climate agreement. The decision was notable for the absence of any reference to “equity,” a prominent principle in all previous major climate agreements. Wealthy countries resisted the inclusion of equity on the grounds that the term had become too closely yoked to developing countries' favoured conception of equity. This conception, according to wealthy countries, exempts developing countries from making commitments that are stringent enough for the collective effort needed to avoid dangerous climate change. In circumstances where even mentioning the term equity has become problematic, a critical question is whether the possibility for a fair agreement is being squeezed out of negotiations. To address this question we set out a conceptual framework for normative theorising about fairness in international negotiations, accompanied by a set of minimal standards of fairness and plausible feasibility constraints for sharing the global climate change mitigation effort. We argue that a fair and feasible agreement may be reached by (1) reforming the current binary approach to differentiating developed and developing country groups, in tandem with (2) introducing a more principled approach to differentiating the mitigation commitments of individual countries. These two priorities may provide the basis for a principled bargain between developed and developing countries that safeguards the opportunity to avoid dangerous climate change without sacrificing widely acceptable conceptions of equity.

3.1 Introduction

In the final hours of the United Nations climate change conference held in Durban, South Africa, in late 2011, senior negotiators from wealthy and developing countries clustered in a widely reported “huddle” to resolve outstanding points of discord on how to launch negotiations for a long-term global climate agreement to succeed the Kyoto Protocol. Among the statements voiced in the huddle, one of the most intriguing was attributed to the lead United States negotiator, Todd Stern: “If equity’s in, we’re out.”¹ In other words, if the resulting decision contained any references to the term “equity,” the United States would refuse to participate. As it transpired, the United States and like-minded countries succeeded on this point. The agreed upon Durban Platform for Enhanced Action contained no references either to equity or to the “common but differentiated responsibilities” of all parties for protecting the climate system.² These omissions were notable since both are core principles of the United Nations Framework Convention on Climate Change (UNFCCC, Article 3.1), under whose auspices these negotiations took place.

The debate about equity at Durban is the latest turn in a long-standing dispute between developed and developing countries on how principles of equity or fairness should apply to differentiating each group’s respective contributions to reducing or limiting (“mitigating”) global greenhouse gas emissions. The U.S. position voiced at Durban is consistent with its long-held view that any global climate agreement must include all “major emitters,” which now notably includes developing countries, such as China and India, in addition to developed countries. Developing countries for their part have persistently argued that since the convention links equity to wealthy countries’ responsibility to “take the lead” in

¹ United States Department of State, United Nations climate change conference in Durban, South Africa: Special briefing: Todd Stern, Special Envoy for Climate Change, 13 December 2011, Accessed 20 December 2013. <http://www.state.gov/r/pa/prs/ps/2011/12/178699.htm>. In response to a question about the wording of his quotation, Stern stated, “Whether I said those exact words, I have no idea. I might have, but...that’s certainly the idea.”

² UNFCCC, “Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action” (2011).

addressing climate change (Article 3.1), this implies that developing countries should not be required to take on equivalent commitments.

What is new is that whereas the United States had been willing previously to countenance differing interpretations of equity, it now seems to see the term as so closely yoked to the conception of equity favoured by developing countries that it has become an obstacle to agreement. As Lavanya Rajamani observes, “the fact that the divisions on the application of this principle are such as to preclude even a rote invocation of it signals a likely recasting of differentiation in the future climate regime.”³ Rajamani cautions about the implications of this trend:

While the international regime can survive the erosion of certain limited forms of differential treatment, a wholesale rejection of differential treatment, and of the “equity” concerns that animate it, would destabilize the normative core of the regime.⁴

In these circumstances it is critical to assess what scope exists for achieving a fair agreement within the time frame mapped out under the Durban Platform, which aims to conclude no later than 2015 a “protocol, another legal instrument or an agreed outcome with legal force” that would be implemented from 2020 (paragraph 4).

The remainder of this article begins by setting out a conceptual framework for normative theorising about fairness in international negotiations, with a particular emphasis on the role of feasibility considerations. We then outline a set of minimum fairness standards and feasibility constraints that should be taken into account in developing proposals for reforming differentiation under the multilateral climate regime. Based on these considerations, we argue that a fair and feasible agreement will require reforming the current dichotomy between developed and developing countries’ commitments, coupled with a more principled approach to

³ Lavanya Rajamani, “The changing fortunes of differential treatment in the evolution of international environmental law”, *International Affairs* 88, no. 3 (2012): 618.

⁴ *Ibid.*: 616-17.

differentiating the level of national mitigation efforts. In the final section of the article we illustrate how these reforms could form the basis of a principled bargain between developed and developing countries.⁵

3.2 Effectiveness, fairness, and feasibility in climate negotiations: concepts and methods

Fairness represents one of several possible criteria for evaluating proposals and outcomes in climate ethics and policy, along with such others as environmental effectiveness, cost-effectiveness, and institutional feasibility.⁶ All of these criteria are scalar rather than purely binary in nature—in the sense that an agreement could be more or less feasible, more or less fair, and so on—and it is common to frame negotiations as a process of making trade-offs among these criteria. However, the quotation with which we commenced the article raises the prospect that there may be some fundamental incompatibility between certain criteria. In order to investigate this concern, we progressively introduce a set of seven constraints that we believe a future climate agreement should meet if it is to be minimally effective, fair, and feasible. In doing so we recognise that trade-offs may be necessary in order to satisfy maximal accounts of certain criteria, but first we wish to ascertain if an effective agreement could be feasible without thereby sacrificing minimal standards of fairness.

3.2.1 Effectiveness

We will assume that in order to meet a plausible standard of environmental effectiveness, the global climate regime must aim to meet at a minimum the international pledge to “hold the increase in global temperature below two degrees Celsius.”⁷ Scientists and policy-makers have now widely recognised that this

⁵ This article builds on an earlier working paper: Pickering, Vanderheiden, and Miller, "Ethical issues in the United Nations climate negotiations: A preliminary analysis of parties' positions".

⁶ S Gupta et al., "Policies, instruments and co-operative arrangements" in *Climate change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, UK and New York, NY: Cambridge University Press, 2007), 751.

⁷ UNFCCC, "Copenhagen Accord", Paragraph 1.

requires holding cumulative emissions within a finite intergenerational “budget” for the foreseeable future.⁸ We assume further that over the next few decades the primary means of pursuing the temperature goal will be conventional mitigation (for example, through shifting to low-emitting energy production) rather than employing geoengineering technologies, which remain largely untested and controversial for their potential side effects.

Given the dispersion of polluting activities across the world’s major economies, adequate mitigation cannot be achieved by any one state alone. Since mitigation involves substantial present costs to individual states while providing a more general global benefit over the longer term (in the form of a safer climate), there is a risk that countries will seek to free-ride on the efforts of others, thus undermining the overall effectiveness of mitigation efforts. Multilateral agreement is therefore necessary to provide restraints on free-riding. Due to the rapid observed and projected rise in the share of global emissions in developing countries and the limited availability of low-cost mitigation options in developed countries, action by developed countries alone will be insufficient to avoid dangerous climate change.⁹ Substantial mitigation could be achieved in principle through coordinated action by a smaller number of major emitters (such as the G20), although such an arrangement may not adequately protect smaller emitters vulnerable even to moderate levels of climate change.¹⁰ Nevertheless, the argument we advance here could apply to a multilateral agreement whether or not its membership were universal. These considerations lead us to the first of our constraints:

1. *Effectiveness.* A global response to climate change will be effective only if it includes a multilateral agreement entailing substantial mitigation efforts within a critical mass of major developed and developing economies.

⁸ Shue, "Human rights, climate change, and the trillionth ton".

⁹ Gupta et al., "Policies, instruments and co-operative arrangements", 776.

¹⁰ Robyn Eckersley, "Moving forward in climate negotiations: Multilateralism or minilateralism?", *Global Environmental Politics* 12, no. 2 (2012).

It is important to underscore that this constraint posits multilateral agreement as a necessary but insufficient condition for avoiding dangerous climate change. It is therefore compatible with the view that responding to climate change requires a “polycentric” approach encompassing national and subnational policy reforms, private sector innovation, and action by citizens and consumers.¹¹ A polycentric approach combined with a multilateral agreement could conceivably secure an adequate level of mitigation even if one major economy (the most obvious potential holdout at present being the United States) does not sign on to the agreement. The constraint is also consistent with the widespread assessment that ambitious action on mitigation will need to commence well before 2020 if excessively high stabilisation costs are to be avoided.¹² Finally, as elaborated below, the constraint does not make any assumptions about the distribution of mitigation costs among countries. The constraint simply emphasises that without a critical mass of participants cooperating under a multilateral agreement, the global response to climate change will be ineffective.

3.2.2 *Fairness*

We take the concept of fairness to denote a criterion of even-handed, impartial, or non-arbitrary treatment of persons and groups in the distribution of benefits (or goods) and burdens.¹³ Consistent with the practice of many parties to climate negotiations and the usage in recent literature, we will use the terms “fairness” and “equity” interchangeably as broader moral and political concepts applicable to negotiations, while recognising that equity also has specific legal connotations under the convention.¹⁴ Both fairness and equity may apply to the substantive distribution of goods as well as procedures for distribution; here we focus primarily on the substantive aspect. Research on fairness in climate negotiations may evaluate policy options on the basis of their compatibility with both (1) independent

¹¹ Elinor Ostrom, “Polycentric systems for coping with collective action and global environmental change”, *Global Environmental Change* 20, no. 4 (2010).

¹² Meinshausen et al., “Greenhouse gas emission targets for limiting global warming to 2°C”.

¹³ Compare Rawls, *A theory of justice*, 5.

¹⁴ See, e.g., Friedrich Soltau, *Fairness in international climate change law and policy* (New York: Cambridge University Press, 2009), 3-4.

standards of fairness as well as (2) conceptions of fairness that actors may either be committed to or invoke for strategic reasons. In subsequent sections we outline constraints relating to each of these aspects.

3.2.3 Feasibility

The term “feasibility,” as commonly employed in political theory, comprises dimensions of accessibility (the existence of a practical route from one state of affairs to another) and stability (whether the proposed state of affairs can be maintained once it is reached).¹⁵ If we are concerned about fairness, we will have good reason to be concerned about feasibility, since an arrangement that is fair but unfeasible may result in the persistence of an unfair status quo. A considerable amount of research in the field of climate ethics already incorporates some real-world constraints, such as partial (rather than full) compliance of actors with moral requirements.¹⁶ Nevertheless, a key limitation of many proposals for fairly distributing the benefits and burdens of mitigation—both in climate ethics and climate economics—is a tendency to pay limited attention to their feasibility. Accordingly, if research is to heed a recent call for “climate ethics for climate action,” it must incorporate feasibility considerations more systematically.¹⁷

Whereas the accessibility dimension of feasibility is arguably less relevant at the stage of formulating core normative principles, it is central to theorising strategies for political reform.¹⁸ Formulating an appropriate conception of accessibility is particularly important in policy contexts with long time horizons, such as climate change. As Pablo Gilabert and Holly Lawford-Smith observe: “What may have very low accessibility now may turn out to be highly accessible in the future, given a sufficiently long sequence of dynamic expansions of the feasible sets of political reform.”¹⁹ Taking this perspective can help us avoid the twin pitfalls of (1) the overly

¹⁵ Gilabert and Lawford-Smith, “Political feasibility: A conceptual exploration”: 3.

¹⁶ A recent example in this journal is Henry Shue, “Face reality? After you!—a call for leadership on climate change”, *Ethics & International Affairs* 25, no. 1 (2011).

¹⁷ Light, “Climate ethics for climate action”.

¹⁸ Gilabert and Lawford-Smith, “Political feasibility: A conceptual exploration”: 11-12.

¹⁹ *Ibid.*: 13.

pessimistic view that a policy will never be feasible simply because it is not feasible now and (2) the overly optimistic view that a policy that may be feasible at some point in time is feasible now and will remain so.

An important intersection between fairness and feasibility arises once we take account of the fact that any global agreement must rely on the voluntary participation of states. There is a widely observed empirical link between the perceived fairness of an international agreement among parties and its likelihood of being adopted and complied with.²⁰ When combined with *effectiveness*, this provides the basis for an initial feasibility constraint:

2. Perceived fairness. An effective multilateral climate agreement will be feasible only if it is accepted as fair by all parties whose participation is necessary to satisfy *effectiveness*.

Once conceptions of fairness are incorporated into a normative account, two reductive challenges must be addressed. The first is that parties' conceptions of fairness are ultimately reducible to parties' calculations of material interests. On this view, commonly associated with realist theories of international relations, moral argument is of little or no consequence in affecting the substantive outcome of negotiations. This empirical account lends support to normative claims that any agreement should satisfy an international version of the Pareto principle, whereby no state loses more than it gains from participating.²¹ Granted, some evidence suggests that parties to climate negotiations largely choose principles of fairness that match their own interests most closely.²² However, a growing body of literature based on constructivist theories suggests that ethical arguments and norms may influence international relations—on issues ranging from the end of colonialism to prohibitions on certain types of weaponry—not least by shaping the

²⁰ Barrett, *Environment and statecraft: The strategy of environmental treaty-making*, xiv.

²¹ As exemplified by Posner and Weisbach, *Climate change justice*.

²² Andreas Lange et al., "On the self-interested use of equity in international climate negotiations", *European Economic Review* 54, no. 3 (2010).

way in which different countries perceive their own interests.²³ Thus, conceptions of fairness and moral arguments may play both an enabling and a constraining role in influencing what is feasible in negotiations.

A second reductive argument posits that the fairness of an agreement should be judged solely according to what parties perceive to be fair. But even where negotiations are conducted under procedurally fair conditions, it is conceivable that the resulting distribution of benefits and burdens could be unfair from the perspective of plausible normative theories, or that parties may need to choose among several mutually acceptable settlements, some of which may be fairer than others.²⁴ Reference to independent standards of fairness is therefore important for ethical analysis of international negotiations. In order to provide action-guiding recommendations such standards should be applied to the set of feasible agreements, which will be circumscribed by what parties could plausibly be persuaded to consider as fair.²⁵ The independent standard need not correspond to a single theoretical conception of fairness, but (as we illustrate below) could represent a minimal standard incorporating common elements of robust theories of fairness.

3.3 Differentiation in climate negotiations: key issues and constraints

With this conceptual framework in place, we now focus on the question of how a fair and feasible agreement may be reached regarding the differentiation of mitigation efforts among countries. First we distinguish two types of differentiation, then we introduce several further constraints that apply specifically to fairness and feasibility in differentiation.

²³ Compare Christian Reus-Smit and Duncan Snidal, "Reuniting ethics and social science: The Oxford handbook of international relations", *Ethics & International Affairs* 22, no. 3 (2008).

²⁴ Compare Cecilia Albin, *Justice and fairness in international negotiation* (Cambridge, UK; New York: Cambridge University Press, 2001).

²⁵ See Adam Swift, "The value of philosophy in nonideal circumstances", *Social Theory and Practice* 34, no. 3 (2008): 369.

3.3.1 *Categorical and national differentiation*

We use the term “differentiation” in a broad sense to encompass the idea of “differential treatment” (“the use of norms that provide different, presumably more advantageous, treatment to some states”) as well as norms that may require more stringent actions by some states.²⁶ In the remainder of the article we distinguish two types of differentiation that are particularly relevant to climate negotiations. The first type relates to how groups of countries are delineated (“categorical differentiation”), while the second concerns the way in which national levels of commitment are set within individual groups (“national differentiation”).

To place the Durban debate on equity in context, we provide some brief background on how each type of differentiation has evolved in previous climate agreements. Categorical differentiation reached its high point in the Kyoto Protocol (adopted in 1997), which required only developed countries to meet legally binding emissions limitations.²⁷ The protocol also included a degree of national differentiation among developed countries’ targets, albeit one that emerged through a largely ad hoc approach.²⁸

In tandem with growing recognition that maintaining a safe limit on temperature rise requires substantial mitigation in developing countries, the last decade has seen a progressive erosion of formerly prominent aspects of categorical differentiation.²⁹ In particular, outcomes of recent negotiations, including the 2009 Copenhagen Accord and the 2010 Cancún Agreements, include not only “commitments” by developed countries but also “actions” by developing countries on mitigation. The Copenhagen Accord also introduced a far more flexible form of national differentiation than under the protocol, whereby each country could make

²⁶ Rajamani, *Differential treatment in international environmental law*, 1.

²⁷ Rajamani, "The changing fortunes of differential treatment in the evolution of international environmental law": 605-06.

²⁸ Harald Winkler, Bernd Brouns, and Sivan Kartha, "Future mitigation commitments: Differentiating among non-Annex I countries", *Climate Policy* 5, no. 5 (2006): 475.

²⁹ Rajamani, "The changing fortunes of differential treatment in the evolution of international environmental law": 616.

political pledges (rather than legally binding commitments) whose form and extent could be determined unilaterally.

The absence of the term “equity” from the Durban Platform appears to rule out at the very least a rigid Kyoto-style form of categorical differentiation. Nevertheless, the decision allows considerable leeway for an approach lying anywhere between the current level of differentiation and much greater symmetry between developed and developing countries’ commitments than at present. Moreover, in specifying that the agreement will be “under the Convention,” the Durban Platform implicitly imports key principles from the convention, including equity and common but differentiated responsibilities.³⁰

3.3.2 Minimal standards of fairness in differentiation

A starting point for a minimal independent standard of fairness would be to require that any form of differentiation should reflect (implicitly or explicitly) moral principles widely accepted in climate ethics as relevant to distributing the costs and benefits of addressing climate change. Among prevailing approaches in climate ethics one may draw a broad distinction between those that focus on how to allocate national efforts contributing to global mitigation (“effort-sharing approaches”) and those that focus on how to distribute global atmospheric resources (“resource-sharing approaches”).³¹ Effort-sharing approaches most frequently invoke principles of (1) contribution to the problem (through proportional contribution to cumulative or current greenhouse gas emissions) and (2) capacity to pay (for domestic or international mitigation).³² Somewhat less widely accepted but still commonly invoked is (3) the benefit that current generations have inherited from centuries of emissions-intensive economic development.³³ Resource-sharing approaches most commonly invoke the principle

³⁰ Ibid., 618.

³¹ BASIC experts, “Equitable access to sustainable development: Contribution to the body of scientific knowledge” (Beijing, Brasilia, Cape Town and Mumbai: BASIC expert group, 2011), 9-11.

³² See Simon Caney, “Climate change and the duties of the advantaged”, *Critical Review of International Social and Political Philosophy* 13, no. 1 (2010).

³³ See, e.g., Shue, “Global environment and international inequality”.

that each person should have an equal per capita entitlement to a share of Earth's capacity to absorb emissions.³⁴

We have discussed the relative merits of some of these approaches elsewhere,³⁵ but for present purposes we formulate a minimal standard of fairness that captures core elements of the most widely discussed allocation methods:

3. *Fairness*. A climate agreement is minimally fair only if: (1) each actor's mitigation efforts are proportional to its responsibility for present and/or past emissions and capacity to pay for mitigation, and/or (2) it facilitates the progressive global convergence of per capita emissions toward a cumulative limit compatible with avoidance of dangerous climate change.

Note that this criterion, while broad, already rules out certain distributive approaches, such as those based on equal per capita sharing of costs or grandfathering of existing emission levels, both of which tend to favour wealthy high-emitting countries. At the same time, while this approach requires a substantial degree of national differentiation, it is indifferent as to whether any form of categorical differentiation is used. Further fairness constraints could be specified (particularly requirements for fairness in adaptation), but this should be sufficient for illustrating our general approach to differentiating mitigation efforts.

3.3.3 Feasibility constraints: plural conceptions of fairness and institutional inertia

We may now introduce several further feasibility constraints that must be met if fair differentiation is to be achievable under a post-2020 climate agreement. Each could be said to represent a conception of fairness strongly held by some or all negotiating groups, thus fleshing out the more general constraint of *perceived*

³⁴ See, e.g., Singer, *One world*.

³⁵ See, e.g., Vanderheiden, *Atmospheric justice*.

fairness. Here we select from a set of feasibility constraints specified by Valentina Bosetti and Jeffrey Frankel based on their analysis of recent negotiations:³⁶

4. *Participation*. "The United States will not commit to quantitative targets unless China and other major developing countries commit to quantitative targets at the same time."

5. *Basis for differentiation*. "China, India, and other developing countries will not make sacrifices they view as a. fully contemporaneous with rich countries, b. different in character from those made in the past by richer countries, c. preventing them from industrializing, d. failing to recognize that richer countries should be prepared to make greater economic sacrifices to address the problem than poorer countries, or e. failing to recognize that the rich countries have benefited from an unfair advantage in being allowed to achieve levels of per capita emissions that are far above those of the poor countries."

6. *Costs*. "No country will accept a path of targets that is expected to cost it more than Y percent of income [set at 1 percent by Bosetti and Frankel] throughout the twenty-first century (in present discounted value)."

While *participation* appears to permit unfairness if one takes the view that the United States ultimately has a responsibility to act unconditionally, the participation of major developing countries is nevertheless a corollary of the *effectiveness* constraint outlined above. Moreover, *participation* does not stipulate that developing countries should pay for all their domestic emissions reductions themselves (since they could be financed by developed countries), although equally the *costs* criterion implies that it would be implausible to expect developed countries to bear all the costs of global mitigation. One could also argue that *costs* would permit an unfair agreement since countries may have a responsibility to remedy harm regardless of the cost to themselves. However, given the voluntary nature of participation in a global agreement it is highly unlikely that countries

³⁶ Valentina Bosetti and Jeffrey Frankel, "Politically feasible emissions targets to attain 460 ppm CO₂ concentrations", *Review of Environmental Economics and Policy* 6, no. 1 (2012): 89-90. The numbering and titles are our own.

would inflict very large economic costs on themselves in the absence of international legal liability to do so.

We introduce one final feasibility constraint not included by Bosetti and Frankel, based on the idea of institutional inertia in the multilateral climate regime:

7. Institutional compatibility. A medium-term climate agreement will be feasible only if it maintains a sufficient degree of compatibility with deeply embedded institutional elements of the climate regime.

Including this constraint may seem controversial given the numerous challenges that the UNFCCC has faced in recent years, ranging from efforts by the United States and others to construct alternative bodies for addressing climate change among a smaller group of parties, to the near collapse of the multilateral process in Copenhagen. Yet the UNFCCC has demonstrated a significant degree of resilience as “minilateral” initiatives, such as the Asia-Pacific Partnership on Clean Development and Climate, have fallen by the wayside, while at Cancún in 2010 parties reaffirmed their willingness to invest in the multilateral process.³⁷ At the same time, numerous commentators have highlighted the difficulties of enacting thoroughgoing reform of the UNFCCC.³⁸ One reason for the difficulty of institutional change in the UNFCCC is the prevailing consensus-based decision-making procedure, which itself has proved resistant to reform. Certain kinds of institutional dysfunction should not be taken as given but rather as the object of reform proposals themselves. Nevertheless, there are some entrenched features of the climate regime whose reform or abolition would arguably require an implausibly large amount of political will to enact in the foreseeable future. In the next section we discuss one institutional feature widely considered to be deeply embedded—namely, the categorisation of developed and developing countries into formal groupings.

³⁷ See Eckersley, "Moving forward in climate negotiations"; and Michael Grubb, "Cancún: The art of the possible", *Climate Policy* 11, no. 2 (2011).

³⁸ See, e.g., Joanna Depledge, "The opposite of learning: Ossification in the climate change regime", *Global Environmental Politics* 6, no. 1 (2006).

Finally, we note another possible feasibility consideration relevant to the Durban debate on equity—namely, the prospect that parties could simply reject as unfair approaches that are couched in certain terms. Arguably terms such as “climate debt” constitute rhetorical constraints due to the connotations of blame they hold for developed countries.³⁹ However, Stern’s response to a question about what he meant by “If equity’s in, we’re out” is noteworthy:

It’s not that there’s anything wrong with . . . talking about equity in the context of climate negotiations, and the term appears in the framework convention, and we tend to look at the phrase as calling for fairness to all parties, and we think that’s fine.

But in this context, when we’re talking about setting up a negotiation, . . . the key element of which for us, was to include all the major players in the same legal system kind of together, we just thought that that would be a distraction that would tend to drive people back into the old paradigm, if you will, and we didn’t want to go there.⁴⁰

This, coupled with the reference to the convention mentioned above, suggests that it would be premature to see the lack of reference to equity in the Durban Platform as conclusive evidence for a rhetorical constraint on explicit reference to equity in a future agreement, let alone on giving that principle substantive effect.

3.4 Priorities for reforming differentiation

3.4.1 Categorical differentiation: the need to reform the annex system

The divide between developing and developed countries that is characteristic of many areas of international negotiation has become especially entrenched in the climate regime as a result of the structure of the convention, which divides countries into Annexes according to whether they are developed (roughly equivalent to Annex I) or developing (non-Annex I).⁴¹ Non-Annex I countries may

³⁹ See Pickering and Barry, "On the concept of climate debt" [Chapter 2].

⁴⁰ United States Department of State, "United Nations climate change conference in Durban, South Africa".

⁴¹ Depledge, "The opposite of learning: Ossification in the climate change regime": 9.

voluntarily move to Annex I, but few have done so to date, largely owing to procedural hurdles as well as limited incentives to take on binding commitments.⁴²

While some countries have recently challenged current approaches to country groupings, most non-Annex I countries have resisted what they see as efforts to undermine a “firewall” that safeguards Kyoto-style categorical differentiation.⁴³

There are strong reasons for seeing the current approach to country listings as seriously flawed. Even if differentiation by listing may aim to capture some of the essence of the principle of common but differentiated responsibilities, a binary distinction is a crude way of doing so. Moreover, it is clear that the distinction between developed and developing countries is not tied reliably to objective criteria. For example, a number of non-Annex I countries—notably such countries as Singapore, Qatar, and Saudi Arabia—have higher per capita incomes or emissions than many Annex I countries.⁴⁴ As a result, some countries that should be taking on a greater share of the global mitigation and financing effort by virtue of their national circumstances remain unfairly exempt from comparable commitments.

Arguably an even more serious problem for effective global mitigation is the lack of distinction among countries still properly classed as “developing.” Although the convention requires special treatment for certain groups of developing countries on the basis of their poverty or vulnerability to climate change, there is no clear distinction between (1) large and economically advanced developing economies and (2) a diverse range of smaller, lower-emitting developing countries. This is despite the fact that major developing economies have increasingly coordinated their positions in negotiations, particularly the BASIC group (Brazil, South Africa, India, and China), and have often found themselves at odds with vulnerable countries seeking more ambitious action on mitigation.

⁴² Depledge, “The road less travelled”.

⁴³ Lavanya Rajamani, “The making and unmaking of the Copenhagen Accord”, *International & Comparative Law Quarterly* 59, no. 3 (2010): 831-32.

⁴⁴ Australia, “Mitigation: Submission to the AWG-LCA and the AWG-KP (24 November 2008)” (Bonn: UNFCCC, 2008).

Is the solution to dispense with the Annex system altogether? Numerous proposals in climate ethics and policy, for example, adopt approaches based purely on national rather than categorical differentiation by using a sliding scale applicable to all countries.⁴⁵ This approach may offer greater theoretical robustness but encounters two major feasibility concerns. First, there may be good reasons to distinguish some countries' commitments according to qualitative or non-scalar features, such as their legal stringency, or the scope of their emissions measurement and reporting obligations. Second, the Annex system is arguably so entrenched that it could be described without exaggeration as "the political and procedural cornerstone of the climate change regime."⁴⁶ Accordingly, eradicating it altogether would divert scarce political will that could better be applied to other reform priorities. Instead, the preferable avenue would be to focus on ways to modify the Annex system so as to address its critical deficiencies.

3.4.2 National differentiation: the case for a principled approach

The minimal fairness standard outlined above requires that national mitigation efforts must reflect widely accepted principles of fairness, such as responsibility, capacity, and equality. While many developing countries have also argued for a morally principled approach to distributing mitigation efforts, this view appears to be at odds with the position of many developed countries, which (with the notable exception of the European Union) have generally resisted criteria-based approaches. Developed countries have frequently contended that no single approach to fairness could capture the diversity of parties' national circumstances.⁴⁷

An initial appeal of ad hoc approaches is that they appear to respect the diversity of views on effort-sharing and to allow each country to take its national circumstances into account. However, unstructured approaches tend to downplay factors that many parties consider as important, such as the responsibility of countries to

⁴⁵ See, e.g., Baer et al., "Greenhouse development rights".

⁴⁶ Depledge, "The road less travelled": 273.

⁴⁷ These views were evident in a recent UNFCCC workshop; see UNFCCC, Workshop on equitable access to sustainable development (AWG-LCA 15) 2012, Accessed 20 December 2013. http://unfccc.int/meetings/bonn_may_2012/workshop/6658.php.

prevent and remedy harm to other countries, regardless of whether they would otherwise gain or lose from an agreement. Furthermore, a lack of comparability in ad hoc approaches may exacerbate suspicions among parties that others are free-riding on their actions, as well as allowing unequal bargaining power among countries to operate unchecked. Analysis of the Copenhagen pledges suggests that many developing countries' mitigation pledges are at a level comparable to those of developed countries when measured against their projected "business as usual" emissions level.⁴⁸ Thus, even though the current ad hoc approach may have encouraged greater participation of developing countries—ensuring a far wider coverage of global emissions than the Kyoto Protocol—it has arguably failed to encourage developed countries to take on their fair share of the global burden. Even if a principled approach were desirable, one could still argue that reaching agreement on a common set of principles would be impossible. However, several countervailing arguments could be made. One suggestive response would be to point to formulaic approaches used in other areas of international relations, including UN peacekeeping and ozone protection, and the distribution of the EU's emissions target among its member states.⁴⁹ Nevertheless, the challenge of reconciling multiple conceptions of fairness in climate change mitigation is arguably much greater than in any of these contexts. Not only are the over 190 parties to the convention far more diverse in wealth, institutional composition, and cultural tradition than EU member states, but the economic costs involved are much higher than in any other context where burden-sharing formulae have been adopted. For example, the UN's budget for peacekeeping and regular operations together is around \$10 billion a year, whereas recent estimates of the incremental investment in mitigation required globally by 2030 range from \$380 billion to \$1.2 trillion a year.⁵⁰ For these reasons, arguments from analogy need to be supplemented with a

⁴⁸ Frank Jotzo, "Comparing the Copenhagen emissions targets" *Crawford School Centre for Climate Economics & Policy Paper No. 1.10*. (2010).

⁴⁹ See Scott Barrett, *Why cooperate? The incentive to supply global public goods* (Oxford: Oxford University Press, 2007); and Paule Stephenson and Jonathan Boston, "Climate change, equity and the relevance of European 'effort-sharing' for global mitigation efforts", *Climate Policy* 10, no. 1 (2010).

⁵⁰ See United Nations, *Financing peacekeeping 2013*, accessed 20 December 2013. www.un.org/en/peacekeeping/operations/financing.shtml; United Nations, "Assessment of member

more direct assessment of whether and how major disagreements could be overcome.

Given highly divergent conceptions of fairness, any principled approach will need to incorporate multiple criteria common or tolerable to the different approaches in order to achieve the requisite level of acceptability.⁵¹ However, there remains a considerable risk that one country's favoured principle cannot be incorporated without thereby violating that of another. The paradigm example of such a dilemma is the question of how responsibility for past emissions should be taken into account. Once historical emissions are included, some allocation methods would require countries, such as the United States, to reduce their emissions to zero or even below zero by 2050.⁵² Developed countries have argued that the investments required to achieve such targets would be too massive to secure their citizens' support (thus violating *costs*). Developing countries, however, would see a failure to take account of historical responsibility as denying them the right to develop that wealthy countries have enjoyed (thus violating *basis for differentiation*).

Most work in climate ethics strongly supports explicit consideration of past emissions in determining a country's responsibilities in the belief that countries should be held responsible for avoiding and remedying their contribution to harm. One of us has previously advanced a specific proposal on the treatment of historical responsibility,⁵³ but here we limit our discussion to highlighting two approaches that may help break the impasse on this question, while recognising that other theories may also be capable of satisfying both *fairness* and *perceived fairness*.

First, while some authors suggest that full responsibility for historical emissions could be justified on the grounds that contemporary citizens of developed countries

states' contributions to the United Nations regular budget for 2012" (2011); and Susanne Olbrisch et al., "Estimates of incremental investment for and cost of mitigation measures in developing countries", *Climate Policy* 11, no. 3 (2011): 974.

⁵¹ Madeleine Heyward, "Equity and international climate change negotiations: A matter of perspective", *Climate Policy* 7 (2007).

⁵² See, e.g., BASIC experts, "Equitable access to sustainable development: Contribution to the body of scientific knowledge".

⁵³ Vanderheiden, *Atmospheric justice*.

have benefited from historical emissions, others have suggested that historical responsibility may be constrained by considerations of foreseeability and avoidability of harm.⁵⁴ On this basis, as well as on pragmatic grounds of data availability, counting emissions from a date such as 1990 (the date of publication of the first report of the Intergovernmental Panel on Climate Change [IPCC]) may be preferable.⁵⁵ While choosing 1990 rather than 1750 makes a tangible difference to developed and developing countries' share of cumulative emissions, the recent swift rise of global emissions means that pre-1990 emissions will represent an ever smaller proportion of cumulative emissions in coming decades.⁵⁶ Nevertheless, outstanding questions would need to be resolved over whether responsibility should accrue for all post-1990 emissions or only those above a level required for a minimally decent standard of living.

Second, historical responsibility could be reflected not solely through the allocation of emissions entitlements but also in the allocation of responsibilities for mobilising climate finance for developing countries, particularly to support adaptation to the adverse consequences of climate change resulting from past emissions.⁵⁷ Allowing substitution between these types of resources would be consistent with a basic point commonly underscored by theorists that there is no human "right to emit" per se. Rather, emissions are merely an instrumental means of securing such basic rights or goods as health, food, water, and shelter.⁵⁸

Although a substantive agreement on how historical responsibility should be applied will face considerable obstacles, it is notable that the Cancún Agreements explicitly referred to historical responsibility for the first time in a consensus-based

⁵⁴ Shue, "Global environment and international inequality"; contrast Rudolf Schüssler, "Climate justice: A question of historic responsibility?", *Journal of Global Ethics* 7, no. 3 (2011); and Seumas Miller, "Collective responsibility, epistemic action and climate change" in *Moral responsibility: Beyond free will and determinism*, ed. Nicole A Vincent, Ibo van de Poel, and Jeroen van den Hoven (Heidelberg: Springer, 2011).

⁵⁵ See Vanderheiden, *Atmospheric justice*, 190.

⁵⁶ Höhne et al., "Contributions of individual countries' emissions to climate change and their uncertainty"; and Botzen, Gowdy, and van den Bergh, "Cumulative CO₂ emissions: Shifting international responsibilities for climate debt".

⁵⁷ Compare Vanderheiden, "Globalizing responsibility for climate change": 81-82.

⁵⁸ Hayward, "Human rights versus emissions rights".

UNFCCC decision, which may open up scope for deliberation on this issue.⁵⁹ Disagreement over other substantive principles may likewise be expected to be difficult but not impossible to overcome. The principle of long-term convergence toward equal per capita emissions, for example, has been supported by developed countries, such as EU members, as well as many developing countries.⁶⁰ At present, however, the accessibility of such an approach is limited by the steep transitional costs faced by countries with high or quickly rising per capita emissions, among which are both developed countries (such as the United States) and developing countries (such as China). As we outline in the next section, a phased approach to principled allocation could help to resolve this issue.

3.5 Toward a principled bargain

We now illustrate how the two reform priorities outlined above—improved categorical differentiation through reforming the existing Annex system, and a more principled approach to national differentiation—could be translated into elements of a coherent institutional framework.

The first element of the framework—aimed at improving categorical differentiation—would involve introducing a tiered approach to developing countries' mitigation efforts. This could be achieved by adding one or more new Annexes under the convention or the new agreement, although creating further subcategories within the non-Annex I group may be easier to reconcile with developing countries' concern for maintaining differential treatment. Membership in each category should be based on objective criteria, such as per capita income or emissions. This would imply, among other things, that the wealthiest non-Annex I countries could be deemed candidates for joining Annex I. In order to enable rapidly industrialising developing economies to take on binding commitments commensurable with their circumstances, certain categories would entail intermediate forms of mitigation commitment, such as targets to reduce emissions

⁵⁹ Grubb, "Cancún: The art of the possible": 847.

⁶⁰ Compare A. Lange, C. Vogt, and A. Ziegler, "On the importance of equity in international climate policy: An empirical analysis", *Energy Economics* 29 (2007): 547.

compared to a business-as-usual projection or to reduce the emissions intensity of national production. To ensure predictability in tracking global emissions trends, all developing economies with high aggregate emissions (such as the BASIC countries) could be required to comply with stringent emissions monitoring standards. This would be compatible with national differentiation under which countries with much lower per capita emissions and income (such as India) had less demanding targets than those with higher per capita income and emissions (such as the other BASIC countries). Positive incentives for adopting the approach—such as eligibility to receive financial support or to participate in international emissions trading mechanisms—could be attached to membership in particular categories.

The second element of the framework would involve the progressive incorporation of principles for national differentiation within and across country categories. National differentiation could be guided at a broad level by a shared long-term goal, such as convergence to roughly equal per capita emissions by 2050, with countries adopting steeper convergence trajectories as they graduate to more stringent categories of commitment. A tiered approach may help to make agreement on effort-sharing principles somewhat more tractable, since formula-based allocation methods will initially apply most stringently to a limited range of countries that have met certain threshold criteria. Even so, for the reasons we have outlined above, agreement on substantive principles will be challenging. We therefore outline further transitional steps that may be required.

An initial step would involve strengthening existing avenues for facilitating deliberation on effort-sharing principles within and outside the UNFCCC.⁶¹ This could include: quantitative comparison of the effectiveness, costs, and distributive implications of different effort-sharing options in the next assessment report of the IPCC (due for staged release in 2013–2014); further official workshops on effort-sharing hosted by the UNFCCC; and regular publication of nongovernmental indices that can “name and shame” laggards while giving credit to those that have made stronger pledges. A further transitional step would be to integrate deliberation on

⁶¹ Compare John S. Dryzek and Hayley Stevenson, “Global democracy and earth system governance”, *Ecological Economics* 70, no. 11 (2011).

criteria into the process of formulating national targets well before the long-term agreement commences. For example, as part of the current process of “clarifying” existing mitigation pledges and possible measures to update pre-2020 pledges, each party could be required to report the criteria it has used to select its level of mitigation (similar to the way in which each developed country must justify the sense in which its climate finance contribution is “new and additional”).⁶² While this alone would not ensure that the resulting commitment reflects widely accepted principles, the transparency thereby achieved would raise the reputational costs to parties that base their commitments on self-serving grounds.

Having sketched the elements of the institutional framework, we must answer the critical question of whether it (or indeed any comparable framework) can satisfy all the constraints we have set out. A key advantage of our framework is that the two types of improved differentiation provide the basis for a principled bargain between developed and developing countries. Achieving such a bargain would require significant compromises but yield substantial gains on both sides. On the one hand, the calls by developed countries for more robust developing country *participation* can be satisfied if developing countries agree to the reform of categorical differentiation. On the other hand, recognition of developing countries’ special circumstances and wealthy countries’ responsibility to lead (which are necessary for satisfying *basis for differentiation*) can be achieved if developed countries and some developing countries compromise on their resistance to principled approaches to national differentiation (which would then provide a foundation for satisfying *fairness*). Working within a reformed Annex system would help to ensure *institutional compatibility*. By addressing core concerns of each negotiating group, the elements of the bargain taken together would help to ensure *perceived fairness*.

Perhaps the most difficult outstanding question is whether all these constraints could be met while simultaneously ensuring *effectiveness* at reasonable *costs*. A precise answer to this question would require quantitative modelling of effort-

⁶² UNFCCC, "Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention", Decision 2/CP.17. 17th Conference of the Parties to the UNFCCC. Durban, 2011. (2012), paras. 5 and 34.

sharing arrangements, which is beyond the scope of this article. However, some findings from existing research may help shed light on the question. While numerous quantitative models find that stabilisation at 2 degrees Celsius remains physically and technically feasible despite recent high emissions, the task becomes considerably more challenging once constraints relating to cost, equity, and incomplete participation are incorporated.⁶³ Under tight constraints—such as full historical responsibility and delayed participation of developing countries until 2030—stabilisation at 2 degrees Celsius becomes infeasible under many models.⁶⁴ Since our framework is compatible with limited recognition of historical responsibility and allows only limited delay in the participation of major developing countries, its degree of feasibility would lie somewhere between scenarios based purely on securing environmental effectiveness and those with tight constraints. Some analysis suggests that limited delay can substantially reduce overall costs compared to delay until 2030.⁶⁵ Other research has modelled frameworks that bear substantial similarities to our own, where a progressively wider range of countries is incorporated into a “staged” system of commitments over time. Among the best-known examples of this type are the South-North Dialogue proposal and Multi-Stage Convergence.⁶⁶ Recent modelling of some of these proposals suggests that most of the constraints outlined above could be fulfilled, although the Multi-Stage proposal would likely yield warming of around 2 degrees Celsius at relatively high cost, while Bosetti and Frankel estimate their proposal would yield warming of 2.8

⁶³ Joeri Rogelj et al., "Emission pathways consistent with a 2°C global temperature limit", *Nature Climate Change* 1, no. 8 (2011).

⁶⁴ Massimo Tavoni, Shoibal Chakravarty, and Robert Socolow, "Safe vs. Fair: A formidable trade-off in tackling climate change", *Sustainability* 4, no. 2 (2012); and Leon Clarke et al., "International climate policy architectures: Overview of the EMF 22 international scenarios", *Energy Economics* 31, Supplement 2 (2009).

⁶⁵ Peter Russ and Tom van Ierland, "Insights on different participation schemes to meet climate goals", *Energy Economics* 31, Supplement 2 (2009).

⁶⁶ Winkler, Brouns, and Kartha, "Future mitigation commitments: Differentiating among non-Annex I countries"; and Michel den Elzen et al., "Multi-stage: A rule-based evolution of future commitments under the climate change Convention", *International Environmental Agreements: Politics, Law and Economics* 6, no. 1 (2006).

degrees Celsius, albeit at lower cost.⁶⁷ Further analysis—some of which will be undertaken as part of the next IPCC assessment report—is required to enable comparative evaluation of these models and where necessary lead to the development of alternative models. However, the available analysis suggests that a framework fulfilling the constraints we have outlined cannot be dismissed out of hand as infeasible.

3.6 Conclusion

We have argued that despite continuing contestation over the meaning of equity, considerations of fairness are not fundamentally incompatible with reaching an effective global climate agreement. At the centre of our proposal for fair differentiation is a principled bargain between developed and developing countries involving the moderation of categorical differentiation in exchange for a more principled approach to national differentiation. In taking this approach we have aimed to illustrate not only how negotiations can (and should) take fairness into account but also how policy-oriented research in climate ethics can (and should) pay more systematic attention to feasibility considerations.

What gives us reason to think that a more principled approach could work in future when other past efforts have failed? Arguably, the key catalyst is that an effective global climate agreement now urgently requires mitigation within all large economies, which will in turn require an agreement that is perceived as fair by developing as well as developed countries. The bargain we have sketched here would help ensure that even if large and advanced developing economies participate in an agreement on a similar legal footing to developed countries, the scope of their commitments would continue to reflect important differences in their per capita emissions and income compared to wealthy countries.

The challenge of arriving at such a bargain cannot be underestimated. It is vulnerable not least to the risk that the United States may refuse to participate in

⁶⁷ Tommi Ekhholm et al., "Effort sharing in ambitious, global climate change mitigation scenarios", *Energy Policy* 38, no. 4 (2010); and Bosetti and Frankel, "Politically feasible emissions targets to attain 460 ppm CO₂ concentrations": 105.

an agreement even if its *participation* demand is met. In that case prospects for effective global action would depend more on such factors as domestic advocacy on climate change within the United States, possibly trade measures initiated by participants in the agreement, and non-climate drivers, such as competition for clean energy markets and energy security concerns. An even greater risk is that if ambitious global mitigation efforts are delayed beyond 2020, whatever opportunities remain to avoid dangerous climate change without sacrificing fairness will rapidly diminish. Still, it is too soon to concede the impossibility of an agreement that is both effective and fair. Indeed, the chances of securing the necessary degree of participation may ultimately be greatest where equity—appropriately conceived—is not left out of the framework but rather built into its foundations.

Chapter 4. Regulating the “new tobacco”: Do those who lose out from climate change policies deserve compensation?

Jonathan Pickering¹

Introductory note

The previous two chapters sought to present new ways of looking at questions that have already received considerable attention in climate ethics, namely the distribution of responsibilities for mitigation (and to a lesser extent adaptation). Chapter 4 turns to a question that has been largely overlooked in climate ethics to date, namely how to characterise and distribute responsibilities for addressing the *adverse impacts* of climate change mitigation policies. Whereas previous chapters have primarily considered responsibilities at the global level, this chapter involves a comparison of the global and domestic levels.

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Abstract

The example of climate change poses a challenge to the widely held view that governments have no obligation to compensate for falls in income or asset values that occur when they regulate public harms (the ‘non-compensable loss objection’). I establish a provisional case for considering all adverse climate policy impacts—as with the impacts of policies to curb smoking—as non-compensable losses. However, I argue that the non-compensable loss objection could be overridden where policies fall disproportionately on (i) those least responsible for causing the problem or (ii) those least able to avoid hardships resulting from measures to address the problem, in particular low-income workers and consumers. Governments may have duties of domestic distributive justice to compensate their own citizens for disproportionate losses. Whether or not governments have comprehensive duties of global justice, they have stringent and demanding duties to compensate those suffering disproportionate losses abroad. Those duties arise from the joint participation of enacting countries and affected countries in cooperative efforts to address public harms (in this case the global climate regime). The analysis thereby helps to inform broader philosophical and policy debates about the extent of a government’s duties of compensation to those living outside its territory.

4.1 Introduction

The idea that governments have no general obligation to compensate those adversely affected by the introduction of measures to regulate harmful activities such as smoking, gambling and other hazardous products is widely accepted in legal theory and philosophy.¹ Nevertheless, governments frequently do compensate some domestic businesses and households facing higher production costs or prices for consumer goods as a result of climate change policies.² By contrast, at the international level industrialised countries and many commentators are far less willing to acknowledge that other countries affected by the same policy measures may be entitled to any compensation.³ In response to longstanding claims by oil-exporting countries for compensation for potential lost revenue resulting from climate policies introduced abroad, one representative of a prominent environmental organisation wryly commented: "It is like the tobacco industry asking for compensation for lost revenues as a part of a settlement to address the health risks of smoking".⁴

Many argue that more urgent attention should be directed instead towards compensation for damage resulting from the impacts of climate change itself (as opposed to damage from policies aiming to address climate change) such as sea level rise, crop failure and the spread of infectious diseases.⁵ Yet, as the range and

¹ William A Fischel, *Regulatory takings: Law, economics, and politics* (Cambridge, MA: Harvard University Press, 1995), 355. See also Richard A. Epstein, *Takings: Private property and the power of eminent domain* (Cambridge, MA: Harvard University Press, 1985), Chapter 9; Robert E. Goodin, "Theories of compensation", *Oxford Journal of Legal Studies* 9, no. 1 (1989), 57.

² Some emissions trading schemes (such as those of the EU and New Zealand) have provided compensation for businesses but not for households. Others (such as Australia's carbon pricing mechanism, which a new government elected in 2013 plans to dismantle) would compensate both businesses and households. See Peter Lloyd, "Designing a carbon price policy: Introduction", *Australian Economic Review* 45, no. 1 (2012): 82.

³ See for example Jon Barnett and Suraje Dessai, "Articles 4.8 and 4.9 of the UNFCCC: Adverse effects and the impacts of response measures", *Climate Policy* 2, no. 2 (2002).

⁴ Jake Schmidt, International Climate Policy Director, Natural Resources Defense Council, quoted in Jad Mouawad and Andrew C Revkin, "Saudis seek payments for any drop in oil revenues" *New York Times*, 13 October 2009.

⁵ See for example Daniel A Farber, "Basic compensation for victims of climate change", *University of Pennsylvania Law Review* 155 (2007).

ambition of climate policies have grown in recent years, it has become increasingly apparent that they will produce a variety of other spillover effects beyond fluctuations in oil prices. As a result, a rising number of countries are concerned about the adverse impacts of climate policies and measures (hereafter “climate policy impacts”⁶) on areas as diverse as food prices, transportation costs and employment.

In this article I introduce the example of climate change in order to evaluate the claim that governments have no obligation to compensate for falls in income or asset values that occur when they regulate public harms (which I will refer to as the “non-compensable loss objection”). I establish a provisional case for considering all adverse climate policy impacts as non-compensable losses based on the fact that, as with policies to curb smoking, they result from governments’ efforts to regulate a public harm. However, I argue that the non-compensable loss objection could be overridden where policies fall disproportionately on those least responsible for causing the problem or those least able to avoid hardships resulting from addressing it.

Through this analysis I illustrate how the example of climate policy impacts may inform broader philosophical and policy debates about the extent of a government’s duties of compensation to those living outside its territory. Duties of distributive justice operating at the domestic level may more readily ground some responsibilities for governments to compensate their own citizens. However, I argue that countries that enact policies to regulate harm (“enacting countries”) may have stringent remedial duties towards affected countries. Those duties are triggered at least in part by the common participation of enacting and affected countries in the global trade regimes as well as by cooperative arrangements to regulate harm (such as the global climate change regime).

⁶ Losses of this kind are included under the terms the “impact of the implementation of response measures” (UNFCCC, “United Nations Framework Convention on Climate Change”, Article 4.8) and “economic and social consequences of response measures” (UNFCCC, “The Cancún Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention” (2011), Part III.E), among other formulations.

The article is structured as follows. In section 4.2 I begin by evaluating the case for compensation at the domestic level. In section 4.3 I assess how far the non-compensable loss objection extends to claims for transnational compensation. Section 4.4 then combines consideration of the domestic and transnational levels to outline proposals for distributing and fulfilling compensatory responsibilities.

4.2 Should governments compensate for economic losses when they regulate harmful activities?

4.2.1 Compensation in context

Although a large body of work has emerged on compensation for losses stemming from government action,⁷ only a moderate body of policy analysis has engaged with climate policy impacts.⁸ One of the few insightful examples of normative theory specifically addressing climate policy impacts is Robyn Eckersley's analysis of border measures.⁹ —I will return to aspects of Eckersley's analysis at various points in the article, while noting that her article addresses the question of compensation as part of a broader set of concerns and does not encompass the wider range of impacts I will discuss here. To the extent that normative theorists working on climate change have addressed compensation issues, they have focused primarily on rationales for compensating countries for their own mitigation costs¹⁰ or for the adverse effects of

⁷ Prominent examples discussed in this article include Henry Sidgwick, *The elements of politics*, 2nd ed. (London: Macmillan, 1897); Frank I Michelman, "Property, utility and fairness: Comments on the ethical foundations of "just compensation" law", *Harvard Law Review* 80, no. 6 (1967); Epstein, *Takings: Private property and the power of eminent domain*; Goodin, "Theories of compensation"; and Robert E. Goodin, "Compensation and redistribution" in *Utilitarianism as a public philosophy* (Cambridge: Cambridge University Press, 1995).

⁸ See for example Barnett and Dessai, "Articles 4.8 and 4.9 of the UNFCCC: Adverse effects and the impacts of response measures".

⁹ Robyn Eckersley, "The politics of carbon leakage and the fairness of border measures", *Ethics & International Affairs* 24, no. 4 (2010).

¹⁰ See for example Lukas H. Meyer, "Compensating wrongless historical emissions of greenhouse gases", *Ethical Perspectives* 11, no. 1 (2004); Catriona McKinnon, *Climate change and future justice: Precaution, compensation, and triage* (Abingdon, UK: Routledge, 2012).

climate change itself.¹¹ Across these areas understandings of compensation vary, and it is important to specify at the outset how I will use the term.

In many international settings—not least in multilateral negotiations on climate change—talk of compensation is uncomfortable for many developed countries, which see the term as carrying overtones of legal liability for past wrongs.¹² References to compensation have likewise proved problematic in some domestic climate policy debates (notably in Australia and the US). Accordingly, some commentators prefer to talk of responding to the claims of affected firms as “assistance”.¹³ However, compensation need not imply legal liability or a retrospective remedy for wrongful action. For present purposes I will borrow the following definition of compensation offered by Daniel Butt: “counterbalancing benefits ... provided to make up for a particular loss”.¹⁴ On this understanding, compensation could involve restoring loss on a no-fault basis. In addition, compensation need not involve transfers pegged to lost revenue but could be provided concurrently with reforms with the aim of preventing future welfare losses. In all of these contexts, my usage of the term complements its common usage in public economics.¹⁵ However, I will have little to say specifically about the role of compensation in improving overall social welfare or economic efficiency, and will focus primarily on the question of whether compensation is owed on the basis of a duty of fairness or justice, either to remedy wrongful harm (“the harm rationale”) or to adjust an unfair distribution of costs (“the fairness rationale”).¹⁶

¹¹ See for example Michael Faure and Marjan Peeters, eds., *Climate change liability* (Cheltenham, UK: Edward Elgar, 2011); and Avner de Shalit, “Climate change refugees, compensation, and rectification”, *The Monist* 94, no. 3 (2011).

¹² Compare Pickering and Barry, “On the concept of climate debt” [Chapter 2].

¹³ Garnaut, *The Garnaut Climate Change Review*, 316.

¹⁴ Daniel Butt, *Rectifying international injustice: Principles of compensation and restitution between nations* (Oxford: Oxford University Press, 2009), 22.

¹⁵ See for example John S. Chipman, “Compensation principle” in *The New Palgrave Dictionary of Economics Online*, ed. Steven N. Durlauf and Lawrence E. Blume (Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2008).

¹⁶ In the present context it is not apparent that these two rationales could be brought under a common rationale of protecting legitimate expectations; contrast Goodin, “Compensation and redistribution”, 215.

One might seek to distinguish assistance from compensation on the basis that the former is only required as matter of charity or humanity rather than in accordance with a duty of justice that is stringent (in the sense of taking priority over other moral reasons) and demanding (in the sense of requiring duty-bearers to take on substantial costs).¹⁷ However, some duties to assist those suffering severe deprivation could be quite stringent and demanding.¹⁸ Conversely there may be cases where compensation is required as a matter not of justice but of prudence. Consider for example the idea that one could justify compensating vested interests—even if they otherwise have no stringent claims to remediation—because they would otherwise stymie cooperative action to address harm, as some oil-exporting countries such as Saudi Arabia have notoriously sought to do since the inception of the climate change regime.¹⁹ While this line of reasoning may be worth pursuing as a “lesser evil” argument or on a welfare-maximising account of international negotiations,²⁰ it is important first to clarify the basis on which we can distinguish deserving from undeserving claims.

Conceptually then we should distinguish compensation from assistance on the basis that the latter may help affected parties to attain a decent standard of wellbeing without necessarily being oriented (as compensation typically is) towards restoring a pre-existing state of wellbeing. In the present context—where governments face the question of how to respond to a loss that they have had some hand in producing—it is thus preferable to evaluate the underlying moral issue as a question of compensation, even if governments may find it more politically feasible to frame remedial measures as assistance when seeking to obtain public support for them.

¹⁷ Christian Barry and Gerhard Øverland, "The feasible alternatives thesis: Kicking away the livelihoods of the global poor", *Politics, Philosophy & Economics* 11, no. 1 (2012): 98.

¹⁸ Henry Shue, *Basic rights: Subsistence, affluence, and U.S. Foreign policy*, 2nd ed. (Princeton, NJ: Princeton University Press, 1996).

¹⁹ Joanna Depledge, "Striving for no: Saudi Arabia in the climate change regime", *Global Environmental Politics* 8, no. 4 (2008).

²⁰ Compare Posner and Weisbach, *Climate change justice*; Joseph E Stiglitz and Andrew Charlton, *Fair trade for all: How trade can promote development* (Oxford: Oxford University Press, 2005), 205.

4.2.2 Characterising the non-compensable loss objection

Whether or not the analogy between tobacco and climate is entirely apt, it points to the idea that regulating climate change forms part of a broader class of cases where government actions raise controversial questions of compensation, namely where governments act to curb harmful activities.

4.2.2.1 Economic losses resulting from policies to regulate harm.

It is common to think that considerations of welfare or justice permit private actors to foist some economic losses upon others without compensation in the course of voluntary and socially beneficial market activities.²¹ Nevertheless, the permissibility of imposing economic losses on others is widely recognised to be subject to certain exceptions, notably where the agent is not a private actor but a government.²² Thus governments generally have a duty to provide compensation for expropriation or “takings”—as when they acquire private land to construct public roads— because such actions infringe upon proprietary or contractual rights.²³

At the same time, the case for government compensation is frequently considered to be weaker where affected parties are subjected not to expropriation but rather to a decline in income or profit. Thus, in a seminal account of compensation for government action, Sidgwick opposed a general rule of compensation for changes in asset values by arguing:

such loss will generally be difficult to trace and define: and perhaps the members of a progressive community may be supposed to look for minor changes of this kind, and

²¹ John Stuart Mill, *On liberty and other writings*, ed. Stefan Collini (Cambridge, UK: Cambridge University Press, 1989 [1859]), 95; Goodin, "Theories of compensation", 57; see also Elizabeth Anderson, "How should egalitarians cope with market risks?", *Theoretical Inquiries in Law* 9 (2008).

²² Judith Jarvis Thomson, *Rights, restitution, and risk: Essays in moral theory* (Cambridge, MA; London, UK: Harvard University Press, 1986), 160-61.

²³ See generally Sidgwick, *The elements of politics*, Chapter XII; Richard A. Epstein, "The harm principle - and how it grew", *The University of Toronto Law Journal* 45, no. 4 (1995); and Thomson, *Rights, restitution, and risk: Essays in moral theory*, Chapter 10.

may within limits be fairly expected to take the bad with the good; as they are likely often to receive benefits from new laws for which they are not made to pay.²⁴

He argues that the case for compensation is even narrower where a government restricts the exercise of rights that are “opposed to public wellbeing”:

[...] if the line between mischievous and salutary use can be drawn with clearness, I conceive that there will be no occasion for compensation, except when a sudden change would inflict great hardship on individuals.²⁵

I will return to the issue of severe hardship below. However, for the present it is important to note that these two objections to compensation—where regulation restricts but does not abrogate proprietary rights, and where governments act to deal with public harm—converge in a particular class of cases; that is, where governments seek to deter harmful but otherwise lawful activities not by prohibiting them outright, but by raising the cost of engaging in them through taxation or similar policy instruments.

4.2.2.2 Costs and benefits arising from regulation

Let us first set out some shared features of these cases that give rise to problems of compensation. Measures to regulate public harms generate a range of costs and benefits. These may be regarded collectively as “impacts”, although I will largely use the term as shorthand for “adverse impacts” and interchangeably with the terms “costs” and “losses”. Regulatory measures for harmful products typically impose legal obligations on producers or consumers of those products. Thus domestic mechanisms to place a price on greenhouse gas emissions generally impose a legal obligation on firms to pay a carbon tax or to purchase permits equivalent to the emissions they produce. Similarly, governments may impose tax obligations on

²⁴ Sidgwick, *The elements of politics*, 194. Michelman makes a similar point: Michelman, "Property, utility and fairness: Comments on the ethical foundations of "just compensation" law": 1225.

²⁵ Sidgwick, *The elements of politics*, 197.

producers of other harmful goods or activities such as tobacco, alcohol and gambling. I will refer to this type of cost as *(i) direct costs*. Measures to regulate harm may also generate two types of *(ii) indirect costs*. First, those who bear the direct cost may be able to pass on part or even all of the extra costs to consumers or other businesses, depending on market structure and the extent to which their competitors are regulated. Producers required to pay a carbon price, for example, can usually pass the costs on to consumers, at least in part.²⁶ I refer to these costs as *(ii)(a) transmitted costs*. Second, policies may result in a range of *(ii)(b) structural adjustment costs* on individuals and regions that are not reducible to the transmission of the pricing throughout the supply chain of the harmful activity. Consider the following example:

Worker: Worker W, a resident of country X, is employed by producer P, which operates a heavily polluting factory. X introduces a pollution tax, which diminishes P's income. W loses her job.

The pattern of direct and indirect costs together determines the overall distribution of costs or "incidence" of a policy.²⁷

In addition to these types of costs, taxing public harms may produce a range of benefits. Two types of benefits are particularly relevant. The first involves benefits from avoided harm, which may accrue to those who consume less of the harmful product (e.g. smokers or gamblers) but also to third parties (such as those who will enjoy a safer climate or lower health risks from passive smoking), including through economy-wide benefits. The second type of benefit involves the revenue raised from taxing the harmful activity, which may be used either for fiscal measures to address the same harm, for other socially beneficial spending, or to reduce other existing taxes (thus conferring financial benefits on a wider group of actors).²⁸ It is

²⁶ Stern, *The economics of climate change*, 212.

²⁷ Dorothée Boccanfuso, Antonio Estache, and Luc Savard, "The intra-country distributional impact of policies to fight climate change: A survey", *Journal of Development Studies* 47, no. 1 (2011): 100.

²⁸ See generally Joseph E. Aldy et al., "Designing climate mitigation policy", *Journal of Economic Literature* 48, no. 4 (2010). In some cases the prospect of revenue may provide a perverse incentive

this latter type of benefit that often places the question of compensation into the foreground: should government redistribute some or all of the revenue to those who bear the costs of regulation?

4.2.2.3 Justifications for the non-compensable loss objection

One response to the question just posed is the non-compensable loss objection referred to in the introduction whereby no compensation is due to those who suffer a loss of income or decline in asset value as a result of government measures to regulate harm. The alleged non-compensable nature of climate policy losses is often underscored by analogies with measures to regulate smoking. Thus Eckersley argues:

It is generally accepted that taxpayers should not be required to compensate the tobacco industry for loss of profits or reductions in asset value following the introduction of new regulations, and one could argue that the same considerations should apply to coal.²⁹

Others have employed the analogy to argue against compensation for consumers:

Carbon pricing is like the taxes imposed on the 'sin' industries supplying alcoholic beverages, tobacco products and gambling, which are subject to special high excise duties or imposts because of the externalities they give rise to on consumer health and the welfare of family members and others adversely affected by the consumption of these products. [...] The government has not compensated drinkers, smokers and gamblers. Why should they compensate households for the bad caused by [greenhouse gas] emissions embodied in the goods and services they consume?³⁰

for governments to tolerate activities that should instead be banned, but given that some emissions remain necessary to secure basic needs it is less clear that such a problem applies to the present case.

²⁹ Eckersley, "The politics of carbon leakage and the fairness of border measures": 379-80.

³⁰ Lloyd, "Designing a carbon price policy: Introduction": 82.

These analogies have some intuitive plausibility. Let us now explore whether we can also provide them with morally sound justifications.

We might ground the non-compensable loss objection in both the harm and fairness rationales introduced above. First, the imposition of costs on polluters (making the “polluter pay”) helps to deter harmful activities (or internalise the costs of an environmental “externality”), whereas compensation (“paying the polluter”) may blunt the intended deterrent effect.³¹ Second, measures of this kind are at least *prima facie* consistent with the moral principles that people should be held responsible for the harmful effects of their conduct, and that those whose harmful activities are the target of regulation should not be entitled to profit from (or retain entirely the unfairly acquired benefits of) having caused harm to others.³² These ideas are especially stringent and demanding with respect to harmful activities that are discretionary on the part of consumers (even if they become addictive, such as smoking) or that exceed what is necessary for securing the basic necessities of life (such as the “luxury” greenhouse gas emissions of many wealthy countries³³). In addition, one may plausibly argue that the consent of citizens to their government’s regulating certain harms on their behalf represents a core condition of the social compact.³⁴ Nevertheless, there are a number of possible counter-arguments to the non-compensable loss objection. I turn to these next.

4.2.3 *Disproportionate losses*

Despite the apparent plausibility of the non-compensable loss objection, measures to regulate harm may prove unfair. At one extreme, affected parties may have a stronger claim for compensation where governments intentionally or negligently cause them unnecessary harm that could have been avoided at low cost, as where

³¹ Louis Kaplow, “An economic analysis of legal transitions”, *Harvard Law Review* 99, no. 3 (1986): 513. See also Garnaut, *The Garnaut Climate Change Review: Final report*, 397.

³² Ethan B. Kapstein, *Economic justice in an unfair world: Toward a level playing field* (Princeton, NJ: Princeton University Press, 2007), 82; and Shue, “Global environment and international inequality”.

³³ Shue, “Subsistence emissions and luxury emissions”.

³⁴ See Epstein, *Takings: Private property and the power of eminent domain*, 121; and Broome, *Climate matters*, 65.

poor financial management undermines global economic stability.³⁵ But that given that a range of economic actors typically have an interest in participating in lawful but harmful activities, in general it will be difficult to regulate harm without causing some initial losses to others. The key question therefore becomes whether governments should compensate affected parties for the adverse impacts of necessary measures to address public harms, or whether governments should leave losses to lie where they fall.

Even though the non-compensable loss objection is frequently invoked, a concern for those who suffer disproportionate losses runs through much of the literature on government compensation. Frank A. Michelman, for example, argues:

The clearer it is that the claimant has sustained an injury distinct from those sustained by the generality of persons in society, and the more obviously there appears to be some objectively satisfactory measure of his disproportionate or distinctive injury, the more compelling will his claim to compensation become.³⁶

Likewise, while Eckersley notes the plausibility of characterising coal as the “new tobacco” and the corresponding weakness of coal producers’ claims for compensation, she argues that in both the tobacco and coal cases the fact that “many workers and regions dependent on a harmful industry will bear a disproportionate burden of adjustment should certainly be the legitimate concern of policy-makers”.³⁷

To see how disproportionate losses could occur under the class of measures we are discussing, it is important to recall the distinction between direct and indirect costs. The fact that a small number of large producers (such as emissions-intensive manufacturing industries) will bear the lion’s share of direct costs hardly means that

³⁵ Matt Peterson and Christian Barry, “Who must pay for the damage of the global financial crisis?” in *Global financial crisis: The ethical issues*, ed. Ned Dobos, Christian Barry, and Thomas Pogge (Palgrave: Macmillan, 2011).

³⁶ Michelman, “Property, utility and fairness: Comments on the ethical foundations of “just compensation” law”: 1217.

³⁷ Eckersley, “The politics of carbon leakage and the fairness of border measures”: 379-80.

those industries are being unfairly targeted. In most cases their burden is proportionate to their share of producing the harm, and in any case, the initial imposts are likely to be spread among a much wider range of consumers. Moreover, even if polluters are more commonly understood as those who produce the pollution, it is not disproportionate per se for indirect costs to fall on consumers. For we should surely attribute responsibility for pollution not only to those who burn the fossil fuels themselves, but also to those who stimulate demand for polluting activities (including consumers) as well as others along the supply chain (including fuel exporters and investors).³⁸ Even if direct and indirect (i.e. transmitted or structural adjustment) costs combine to impose burdens in a way that is proportionate to causal responsibility for harm, the overall distribution of costs could still be unfair if it is disproportionate to (i) affected parties' moral responsibility for the harm or (ii) their capacity to cope with the impacts of the regulation without sustaining (in Sidgwick's phrase) "severe hardship".

Consider an application of the Worker case under a carbon pricing policy. Even if policies justifiably impose direct and transmitted indirect costs on those in the supply chain, some structural adjustment costs (such as unemployment) may be concentrated on individuals in the supply chain out of all proportion to their degree of responsibility for the problem as producers or consumers. A second problem is that indirect costs may tend to fall on the least capable. In the Worker case, the loss may be disproportionate not only in relation to her degree of responsibility but also in relation to her limited capacity to transition to alternative forms of employment, a concern shared by many low-skilled workers in manufacturing industries.

Furthermore, the major distributional effects of measures to tax consumption are generally regressive, in that they fall relatively harder on poorer consumers.³⁹ In the case of climate policies, for example, the purchase of emissions-intensive goods and

³⁸ Paul G. Harris and Jonathan Symons, "Norm conflict in climate governance: Greenhouse gas accounting and the problem of consumption", *Global Environmental Politics* 13, no. 1 (2012); Karl Steininger et al., "Justice and cost effectiveness of consumption-based versus production-based approaches in the case of unilateral climate policies", *Global Environmental Change* In press (Forthcoming).

³⁹ Milena Büchs, Nicholas Bardsley, and Sebastian Duwe, "Who bears the brunt? Distributional effects of climate change mitigation policies", *Critical Social Policy* 31, no. 2 (2011): 289.

services such as fuel and electricity make up a higher proportion of poorer households' incomes.⁴⁰

4.2.4 *Taking the bad with the good*

How then should we respond to disproportionate losses? Even if we cannot ignore them altogether, one might reply (as Sidgwick suggests above) that at least some impacts may be left uncompensated as they are likely to be offset by other benefits. Let us consider two types of offsetting benefits. First, as noted above, in many cases measures to regulate harm will provide benefits to affected parties in the form of avoided harm. Smokers, for example, are likely to enjoy substantial health benefits even in the short term if policies encourage them to smoke less or quit altogether. However, given the inertia in the global climate system, mitigation measures will take some decades to bring about a noticeable slowing in temperature rise. Thus the bulk of the intended benefits of mitigation will accrue to future generations, while producers and consumers today bear the primary costs.⁴¹ Nevertheless, mitigation may also yield some short-term benefits, such as better health due to improved air quality, and as scientific evidence for these benefits improves it may be that those benefits alone could justify the costs of acting on climate change in some regions.⁴²

A second type of offsetting benefit could arise where affected parties benefit from other policies enacted by the same government. At the domestic level, since measures adopted by a government directly affect its own citizens on a wide range of issues, some disadvantages to a citizen resulting from one reform could be evened out by advantages from other reforms over time. However, some impacts such as long-term unemployment may be so severe that they could hardly be

⁴⁰ Boccanfuso, Estache, and Savard, "The intra-country distributional impact of policies to fight climate change: A survey": 106-07.

⁴¹ Gardiner, *A perfect moral storm: The ethical tragedy of climate change*, 32-34. Compare also Aaron James' argument that only offsetting benefits occurring within a person's lifetime should count towards estimating fair shares of the benefits of global trade: Aaron James, *Fairness in practice: A social contract for a global economy* (New York: Oxford University Press, 2012), 139.

⁴² J. Jason West et al., "Co-benefits of mitigating global greenhouse gas emissions for future air quality and human health", *Nature Climate Change* 3, no. 10 (2013).

outweighed by other benefits. Moreover, economy-wide measures such as carbon pricing may be substantial enough to affect the socially progressive distribution of resources that a country's taxation and social welfare system seeks to achieve.⁴³ Taking these considerations together, the argument that affected parties should take the bad with the good is likely to be weaker where—as for climate change but less so for smoking—a large share of the benefits of regulation will occur in future and the act of regulation produces systemic adverse effects on the distribution of resources within society.

4.3 Does the non-compensable loss objection hold for transnational impacts?

4.3.1 Characterising the transnational compensation problem

Let us turn now to the question of whether the responsibilities we have identified at the domestic level carry over to the transnational level. At the outset we need to establish whether there is a sufficient degree of conceptual and empirical similarity between the two cases to ground a comparison of the merits of compensation in each case. Here I address the extent of similarity between the domestic and transnational levels on two dimensions: the structure of costs and benefits associated with regulation; and the policy mechanisms available for redistributing costs.

4.3.1.1 Transnational costs and benefits

Whereas in an isolated domestic case the overall policy costs distributed across an enacting country are roughly equivalent to the sum of the costs and benefits of its own policy, in a transnational case the overall costs that a country faces will include not only (i) any national costs and benefits resulting from policies that it enacts itself, but also (ii) any transnational costs and benefits resulting from policies addressing the same issue that are enacted in other countries.⁴⁴ I focus here

⁴³ Garnaut, *The Garnaut Climate Change Review*, 393.

⁴⁴ Compare the categories used in Michael Lüken et al., "The role of technological availability for the distributive impacts of climate change mitigation policy", *Energy Policy* 39, no. 10 (2011). In the

primarily on cases where the enacting country is an industrialised country and the affected country is a developing country, but we could envisage circumstances where the roles are reversed. Transnational costs may be broken down into categories that mirror those applicable to domestic costs. First, an enacting country may introduce a policy that imposes direct costs on other countries (let us call these *(i) transnational direct costs*). Thus a country adopting a carbon price on domestic production may erect border measures that have the effect of imposing a carbon price on imported goods.⁴⁵ Second, climate policies may also produce a range of *(ii) transnational indirect costs*. Second, whether or not a tax directly applies to foreigners, the resulting tax burden may do so by changing the prices of internationally traded commodities, as where affected countries face higher prices for importing emissions-intensive goods from enacting countries (*(ii)(a) transnational transmitted costs*). A carbon price could also flow to other parts of the supply chain of the harmful activity that are located overseas, including to firms that extract fossil fuels in one country to be burnt in another country:

Exporter: Producer P, located in country Y, extracts oil and exports it to country X. X introduces a national carbon price, which reduces demand for oil in X. P's income falls.

A final type of transnational impact involves *(ii)(b) transnational structural adjustment costs*. Thus we could envisage a transnational variant of the Worker case introduced above. Transnational structural adjustment costs could take the form of economy-wide impacts in affected countries such as higher unemployment or a decline in public revenue (although in some countries there may be positive effects on employment and public revenue).

climate change context, national costs would include the costs of domestic action as well those arising from international emissions trading, but for present purposes it is not necessary to elaborate on the latter aspect further.

⁴⁵ See generally Eckersley, "The politics of carbon leakage and the fairness of border measures": 369-70; Michael Grubb, "International climate finance from border carbon cost levelling", *Climate Policy* 11, no. 3 (2011).

Likewise the benefit of *avoided harm* may accrue to foreigners, although in many cases the benefit of *revenue* will accrue at least initially only to the enacting country, not to the affected country.

4.3.1.2 Mechanisms for distributing costs

Even if we may identify similar categories of costs at both the domestic and transnational levels, an important difference from the isolated domestic case is that the extent of transnational impacts may be affected by more or less coordinated international efforts to distribute the costs of regulating harm among enacting and affected countries. In some cases, coordination could be necessary simply because the supply chain for harmful goods crosses borders (as in the example of cigarettes or conventional weapons). However, in the case of transboundary pollution problems coordination may be required for the further reason that countries face a collective action problem: while it may be collectively rational for each country to pollute less, it is individually rational for each not to do so because other countries may free-ride on the actions of enacting countries.⁴⁶ In both cases two policy mechanisms are typically central to distributing the costs of the collective effort: (i) agreeing to a division of self-funded domestic efforts; and (ii) resource transfers from one or more countries to support efforts in other countries (typically from wealthy to poor countries). The redistribution of costs under these methods is occasionally referred to as “compensation”⁴⁷ but more commonly as burden-sharing or effort-sharing. In any case, it is important to distinguish this understanding of compensation—where states expressly agree to distribute costs (typically direct costs) in a particular way—from the issue of compensation arising from subsequent impacts that are not the express subject of prior agreement. Enacting countries typically have a degree of discretion over how they fulfil their international commitments, and the domestic policies they select may have greater or lesser impacts on other countries. These impacts are not automatically factored

⁴⁶ Barrett, *Environment and statecraft: The strategy of environmental treaty-making*.

⁴⁷ See for example Theodore Panayotou, Jeffrey D. Sachs, and Alix Peterson Zwane, "Compensation for “meaningful participation” in climate change control: A modest proposal and empirical analysis", *Journal of Environmental Economics and Management* 43, no. 3 (2002).

into either of the two methods for distributing costs. At the international level, therefore, a key question is whether enacting countries should compensate affected countries for indirect transnational costs, either by adjusting the distribution of domestic efforts or through separate resource transfers.

4.3.2 Are transnational losses too hard to trace?

So far we have identified some conceptual resemblances between the categories of costs at the transnational and domestic levels, as well as several differences due to the effects of coordination on the distribution of climate policy impacts. We might nevertheless object to the analogy on the empirical ground that there is little point doing anything about transnational impacts since losses transmitted through the global economy are too difficult to trace. Jon Barnett and Suraje Dessai, for example, argue in relation to oil-exporting countries that “the extent of lost revenues to be compensated would be impossible to define with certainty”.⁴⁸

Quantifying the overall transnational impacts of domestic policies is challenging for a number of reasons. First, impacts flowing from one country’s policy may be difficult to disentangle from the impacts of (i) policies enacted by other countries to address the same harm or (ii) other factors influencing global economic conditions, including the impacts of the harm that is being regulated (e.g. the impacts of climate change).⁴⁹ For example, oil price fluctuations due to climate policy measures are likely to be much smaller—at least in the shorter term—than those caused by other factors influencing the global economy.⁵⁰ Counterfactual estimates of lost revenue can only be made through sophisticated modelling of global economic conditions, which is highly sensitive to methodological and empirical assumptions.⁵¹ Second, as discussed in section 4.2.4, further complexities arise in calculating any offsetting benefits.

⁴⁸ Barnett and Dessai, "Adverse effects and the impacts of response measures": 235.

⁴⁹ Axel Michaelowa, "Can insurance deal with negative effects arising from climate policy measures?", *Climate Policy* 6, no. 6 (2006): 676.

⁵⁰ Jon Barnett, Suraje Dessai, and Michael Webber, "Will OPEC lose from the Kyoto protocol?", *Energy Policy* 32, no. 18 (2004): 2080.

⁵¹ Not least how oil exporters respond to changes in demand through the Organization of the Petroleum Exporting Countries (OPEC) cartel: *ibid.*

Nevertheless, these complexities should not rule out transnational claims from consideration altogether. It is not clear that all indirect transnational impacts resulting from climate policies will be impossibly difficult to quantify. For example, the High Level Panel of Experts on Food Security and Nutrition has stated that “hardly anybody today contests the fact that biofuel production was a major factor in the recent food price increases”, and that increased production was largely stimulated by climate-related policies to encourage biofuel consumption in wealthy countries.⁵² In any case, it is overly demanding to expect complete certainty of attribution in these cases when in other contexts we recognise the moral imperative to address deprivation even where we have incomplete information about its attribution.⁵³ For example, despite difficulties in quantifying the economic impacts of climate change itself,⁵⁴ developed countries have made substantial funding commitments to address adaptation in developing countries. Nevertheless, as we will see below, uncertainty about indirect costs may have a range of implications for how they are handled under the global climate change regime.

4.3.3 Do states have stringent duties to remedy transnational losses?

Now that we have established a conceptual and empirical foothold for the transnational analogy, let us consider whether the moral considerations discussed in the domestic case strengthen or weaken the argument that governments have stringent compensatory duties at the transnational level. These considerations appear to pull in opposing directions. On the one hand, the case for compensation transnationally could be stronger in circumstances where governments cannot absolve themselves by appealing to the idea that foreigners have consented to “take the bad with the good” (as their own citizens arguably have in the domestic context). On the other hand, if governments have no relevant duties of justice to

⁵² HLPE, “Price volatility and food security” (Rome: The High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, 2011), 40, 32.

⁵³ Compare Barry, “Applying the contribution principle”.

⁵⁴ Dáithí A. Stone and Myles R. Allen, “The end-to-end attribution problem: From emissions to impacts”, *Climatic Change* 71, no. 3 (2005); World Bank, “Economics of adaptation to climate change: Synthesis report” (Washington, DC: World Bank, 2010).

outsiders, no compensation may be due at all. I will address these two points in turn.

4.3.3.1 Taking the bad without the good?

Duties to remedy harm are often thought not to weaken across borders to the same extent as duties of distributive justice.⁵⁵ One could argue that duties to remedy harm persist in the face of the non-compensable loss objection because it is unclear that affected countries benefit specifically from the policies of enacting countries enough to annul any grievances about the adverse impacts of particular policies. Admittedly, policies enacted elsewhere may produce some short-term benefits for affected countries. Oil-exporting countries could benefit to some extent from climate policies enacted elsewhere through factors such as increased demand for cheaper oil in countries without a carbon price and reduced vulnerability to oil price shocks.⁵⁶ However, short-term benefits such as improved air quality will accrue primarily to enacting countries, and the benefits of greatest value to affected countries—in particular a safer climate—will only materialise in the longer term.⁵⁷

Nor can we be sure that the benefits of other policies introduced by enacting countries will be sufficient to outweigh any adverse impacts. While debate remains over the relative influence of international and domestic factors on people's life prospects,⁵⁸ many offsetting benefits transmitted across borders are likely to be difficult to quantify for similar reasons to those relating to quantifying transnational costs. To be sure, the participation of affected countries in the global economy provides a conduit not only for transmitting the impacts of domestic policies across borders, but also for receiving benefits that countries may not have to pay for (such

⁵⁵ Thomas Pogge, *World poverty and human rights: Cosmopolitan responsibilities and reforms*, 2nd ed. (Cambridge, UK: Polity, 2008), 136-37.

⁵⁶ Barnett, Dessai, and Webber, "Will OPEC lose from the Kyoto protocol?"; Michaelowa, "Can insurance deal with negative effects arising from climate policy measures?": 676.

⁵⁷ Note, however, that some affected countries—notably OPEC countries—have amassed substantial sovereign wealth funds that are intended to benefit future generations, and it would be reasonable for the current generation to draw on some of this funding to offset some of the costs it is incurring for their benefit. Economist, "Largest sovereign-wealth funds", 10 March 2011.

⁵⁸ Pogge, *World poverty and human rights*; Mathias Risse, "How does the global order harm the poor?", *Philosophy & Public Affairs* 33, no. 4 (2005).

as the diffusion of new technologies). But we cannot take for granted that the benefits that countries enjoy from global trade are sufficient to set aside any claims they may have for remedying adverse trade-related impacts. Indeed there is ample evidence that unfair trade practices perpetuate—or at least fail to alleviate—hardship in developing countries by limiting their trading opportunities through import tariffs and domestic subsidies.⁵⁹

Even if affected countries receive from enacting countries benefits that are sufficient to offset transnational losses, affected countries may not have consented to waive their claims to compensation. The absence of outsiders' democratic consent to harm may help to explain why in some cases governments offer greater protections against harm to foreigners than to their own citizens (as in international investment law).⁶⁰ Goodin invokes the absence of a democratic voice for foreigners in proposing a much more comprehensive obligation to compensate those adversely affected by the decisions of other countries:

There is no prohibition on affecting interests that have no say. International law and public economics require, instead, simply that any interests that are affected ought be compensated. [...] Purely as a matter of democratic third best, the price of not enfranchising everyone we ideally should is that we would have to pay them off for any harms we inflict upon them and accede to their demands for fair recompense for any benefits we derive from the wrongfully disenfranchised.⁶¹

This seems overly broad, both as a statement of current international law and as a normative principle. Under general international law economic losses are subject to fewer restrictions than other types of transnational harm such as the use of military

⁵⁹ Pogge, *World poverty and human rights*, Chapter 4; James, *Fairness in practice: A social contract for a global economy*, Chapter 1.

⁶⁰ See Goodin, "What is so special about our fellow countrymen?"; and Steven R. Ratner, "Regulatory takings in institutional context: Beyond the fear of fragmented international law", *The American Journal of International Law* 102, no. 3 (2008): 483.

⁶¹ Robert E. Goodin, "Enfranchising all affected interests, and its alternatives", *Philosophy & Public Affairs* 35, no. 1 (2007): 67.

force or environmental damage.⁶² Normative theorists likewise often consider duties to remedy losses that are aggregated and transmitted through the global economy to be less stringent than those associated with more direct forms of transboundary harm.⁶³ Moreover, the moral and economic reasons outlined above for holding polluters responsible for their harmful actions extend readily to economic losses at the transnational level as well, thus providing grounds for thinking that the non-compensable loss objection may apply even in the absence of domestic consent. Finally, Goodin's formulation does not explicitly account for the possibility that even if cross-border interests are not represented in domestic decision-making, democratically legitimate states could nevertheless waive some claims to compensation through mutual consent, as they have largely done (whether or not entirely with good reason) under the global trade regime.⁶⁴ From these considerations we may infer that a free-standing harm rationale is likely to be insufficient to guide our judgments about compensation for transnational impacts. A more promising avenue is to evaluate the ways in which any cooperative arrangements may inform duties to redistribute costs under the fairness rationale. This approach may also help to avoid the concern raised in relation to expansive conceptions of global harm that they are too open-ended or overly demanding.⁶⁵

4.3.3.2 Associative duties

Cooperative or coercive institutional arrangements at the global level may play a dual role in relation to compensation claims. On the one hand, sufficiently systematic patterns of cooperation may form the basis for limited associative duties

⁶² Maziar Jamnejad and Michael Wood, "The principle of non-intervention", *Leiden Journal of International Law* 22, no. 2 (2009), 370-71; Birnie, Boyle, and Redgwell, *International law and the environment*.

⁶³ See Judith Lichtenberg, "Negative duties, positive duties, and the 'new harms'", *Ethics* 120, no. 3 (2010); and Christian Barry and Gerhard Øverland, "Are trade subsidies and tariffs killing the global poor?", *Social Research* 79, no. 4 (2012). For a contrasting view see Pogge, *World poverty and human rights: Cosmopolitan responsibilities and reforms*, Chapter 5.

⁶⁴ The World Trade Organisation (WTO) may require countries to dismantle discriminatory trade measures, but typically without any retrospective compensation for resulting losses. See Marco Bronckers and Naboth van den Broek, "Financial compensation in the WTO", *Journal of International Economic Law* 8, no. 1 (2005).

⁶⁵ Lichtenberg, "Negative duties, positive duties, and the 'new harms'".

of distributive justice and corresponding duties of compensation where costs are distributed unfairly.⁶⁶ On the other hand, those arrangements may give affected countries reasons to waive claims to compensation where doing so would advance other legitimate moral concerns.

Let us grant that common participation in the global economy may give rise to at least some duties to share the gains of trade fairly.⁶⁷ Even if we do so, arguments for climate policy compensation face the problem that there are often good reasons for modifying a *prima facie* fair distribution of the gains from trade in order to enable governments to pursue their national and collective interests in regulating harms. The world trading regime recognises this concern by identifying a range of public policy exemptions from standard trade liberalisation obligations, including protecting public health and exhaustible natural resources.⁶⁸ These exemptions provide countries with some scope to regulate harms such as smoking and environmental degradation. However, it is less clear that appealing to the overall trade regime will yield duties sufficiently precise to account for the possibility that some policy impacts could remain unfair even if they do not substantially distort the overall gains from trade.⁶⁹

A more promising avenue would be to explore whether duties could plausibly flow from systematic and coordinated efforts to address specific harms, particularly those that are regulated by international conventions such as climate change, tobacco control, and more recently, trade in conventional arms.⁷⁰ Under the United Nations Framework Convention on Climate Change (UNFCCC; hereafter the “climate

⁶⁶ Lea Ypi, Robert E. Goodin, and Christian Barry, "Associative duties, global justice, and the colonies", *Philosophy and Public Affairs* 37, no. 2 (2009); Valentini, *Justice in a globalized world: A normative framework*.

⁶⁷ See for example Darrel Moellendorf, "The world trade organization and egalitarian justice", *Metaphilosophy* 36, no. 1/2 (2005); Stiglitz and Charlton, *Fair trade for all: How trade can promote development*; and James, *Fairness in practice: A social contract for a global economy*.

⁶⁸ See World Trade Organization, "Global Agreement on Tariffs and Trade" (1994), Article XX; James, *Fairness in practice: A social contract for a global economy*, 160.

⁶⁹ Contrast James, *Fairness in practice*, 327.

⁷⁰ UNFCCC, "United Nations Framework Convention on Climate Change"; World Health Organisation, "WHO Framework Convention on Tobacco Control" (2003); United Nations, "Arms trade treaty" (2013).

convention”), for example, espouses the principle that parties have “common but differentiated responsibilities and respective capabilities” (CBDR&RC) for protecting the climate system.⁷¹ This principle is widely invoked as an “ethical yardstick” for evaluating the distribution of the costs of addressing climate change.⁷² This principle is often interpreted to require national mitigation efforts to be distributed in a way that is proportionate to countries’ causal responsibility (measured in terms of current or historical emissions) and economic capacity (measured in terms of national income).⁷³ The climate convention also contains a provision relating to climate policy impacts:

Parties shall give full consideration to what actions are necessary under the Convention, including actions related to *funding*, insurance and the transfer of technology, to *meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures...*⁷⁴

While this provision could likewise be seen as an outworking of the principle of CBDR&RC, it falls short of imposing a definite commitment of funding, let alone one of compensation.⁷⁵ The 1997 Kyoto Protocol to the climate convention places a more wide-ranging obligation on developed country parties to “*minimize adverse effects*, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties”, but likewise does not incorporate determinate funding commitments.⁷⁶ While these provisions are compatible with the idea that enacting countries may owe

⁷¹ UNFCCC, Article 3.1.

⁷² Eckersley, “The politics of carbon leakage and the fairness of border measures”: 369.

⁷³ See for example Baer et al., “Greenhouse development rights”.

⁷⁴ UNFCCC, Article 4.8; emphasis added.

⁷⁵ Daniel Bodansky, “The United Nations Framework Convention on Climate Change: A commentary”, *Yale Journal of International Law* 18 (1993): 531.

⁷⁶ Article 2.3; emphasis added. See also Kyoto Protocol, Article 3.14. More recent political (but not legally binding) decisions have also included references not only to minimising but also to “avoiding” adverse effects: UNFCCC, “The Cancún Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative action under the Convention”, part III.E.

compensation or assistance in some instances, any such claims would need to rely on justifications that are supplementary to those contained in the climate convention.

4.3.4 Disproportionate losses across borders

This leads us then to a question parallel to one that we addressed at the domestic level: if national mitigation targets are distributed fairly, could the resulting distribution of transnational economic impacts still give rise to disproportionate losses? Let us use the same criteria for disproportionate loss as we did at the domestic level: losses that fall on those bearing the least moral responsibility or capability. We could see such an approach as compatible with the CBDR&RC principle, as well as giving substance to a principle expressed elsewhere in the climate convention:

*The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.*⁷⁷

There are some reasons for expecting that a fair distribution of direct climate policy costs will be less likely to lead to an unfair distribution of indirect costs at the transnational level than at the domestic level. Whereas within industrialised countries the correlation between a household's income and its emissions is not particularly strong (and thus a uniform carbon price will tend to generate the regressive effects discussed above),⁷⁸ the correlation between national income and emissions worldwide is considerably stronger.⁷⁹ In general then we may expect that

⁷⁷ UNFCCC, Article 3.2; emphasis added.

⁷⁸ Büchs, Bardsley, and Duwe, "Who bears the brunt? Distributional effects of climate change mitigation policies": 296.

⁷⁹ Thomas Bassetti, Nikos Benos, and Stelios Karagiannis, "CO₂ emissions and income dynamics: What does the global evidence tell us?", *Environmental and Resource Economics* 54, no. 1 (2013).

if (i) wealthier countries share a greater burden of the direct costs of global mitigation, and (ii) the indirect costs of climate policies fall primarily on enacting countries,⁸⁰ then (iii) the least responsible and capable countries (i.e. poorer, low-emitting countries) will not bear a disproportionate degree of the total costs of global climate policy. Nevertheless, this expectation may not hold for two reasons.

First, even if countries distribute direct mitigation costs according to proviso (i), proviso (ii) may not hold. Thus, some economic modelling suggests that mitigation will impose higher costs on some affected countries than on enacting countries due to their geographic circumstances and economic structure.⁸¹ Regulation of international transport emissions, for example, could adversely affect many small island states, which are widely considered to have limited options for economic diversification due to their small size, limited natural resources and geographic remoteness.⁸²

Second, even if the first two provisos hold, the conclusion may not follow, particularly if the climate policies of a particular country affect other countries in a way that is more or less unrelated to their role in the production or consumption of emissions. Consider, for example, the impact of developed countries' mandates for biofuel consumption on global food prices, an issue that has come to prominence during recent periods of unusually high food prices.⁸³ Competition between biofuel crops and food crops for scarce land and water resources could push up food prices, disadvantaging those in poorer countries who are reliant on food purchases

⁸⁰ As found in Lüken et al., "The role of technological availability for the distributive impacts of climate change mitigation policy": 6037.

⁸¹ T Barker et al., "Mitigation from a cross-sectoral perspective" in *In climate change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* ed. B. Metz, et al. (Cambridge, UK; New York, NY: Cambridge University Press, 2007), 668; Christoph Böhringer, Carolyn Fischer, and Einar Rosendahl Knut, "The global effects of subglobal climate policies", *The B.E. Journal of Economic Analysis & Policy* 10, no. 2 (2010): 29.

⁸² Mark McGillivray, Wim Naudé, and Amelia Santos-Paulino, "Small island states development challenges: Introduction", *Journal of International Development* 20, no. 4 (2008).

⁸³ See HLPE, "Biofuels and food security" (Rome: The High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, 2013).

(including many in countries such as Brazil whose national income may nevertheless be increased by food or biofuel exports).⁸⁴ Thus:

Food Consumer. Country X introduces a biofuels mandate. Country Y increases its production of biofuels and exports them to X. The price of food in Y rises. Many residents of Y must pay more to obtain enough food.

There is evidence, for example, that biofuel mandates have driven up food prices not only in countries growing biofuels but also in poor countries such as Mozambique that are dependent on food imports and therefore subject to the impact of biofuel production on global market prices.⁸⁵

Importantly, the account of disproportionate losses that I have provided does not support the claim made by some developing countries that *any* losses falling on developing countries are disproportionate.⁸⁶ While the idea of “differentiated” responsibilities could be taken to require a substantial degree of progressivity in the allocation of the costs of climate policy, the fact that such responsibilities are also “common” suggests that there is no solid justification for prohibiting adverse effects on developing countries altogether without attention to variations in responsibility and capacity between and within developing countries.⁸⁷ For example, regulatory measures that fall on wealthy citizens regardless of whether they live in developed or developing countries—as in the case of levies on airline travel—are surely not in principle disproportionate in the sense I have outlined.⁸⁸

⁸⁴ Existing biofuel mandates also appear to have increased price volatility, which adversely affects sellers as well as buyers of food. See Kimberly Elliott, “Subsidizing farmers and biofuels in rich countries: An incoherent agenda for food security” *CGD Policy Paper 032 (September 2013)* (Washington, DC: Center for Global Development, 2013), 27.

⁸⁵ HLPE, “Biofuels and food security”, 16.

⁸⁶ Compare AGF, “Report of the Secretary-General’s High-level Advisory Group on Climate Change Financing” (New York: United Nations, 2010).

⁸⁷ Pickering, Vanderheiden, and Miller, “If equity’s in, we’re out” [Chapter 3].

⁸⁸ Cameron Hepburn and Benito Müller, “International air travel and greenhouse gas emissions: A proposal for an adaptation levy”, *World Economy* 33, no. 6 (2010).

Similarly, even if some costs fall more heavily on individual developing countries than on enacting countries, the resulting losses may not necessarily be disproportionate. Thus, although the high exposure of oil-extracting countries to the impacts of fossil fuel regulation is due in some measure to the arbitrary distribution of natural resource endowments across sovereign territories,⁸⁹ this alone does not mean it would be unfair for them to bear significant costs. Despite still being classed as “developing” countries under the climate change regime, many long-standing oil exporters have become wealthy through their exports, thus providing them with the wherewithal to avoid losses by expanding into less emissions-intensive sectors such as renewable energy or services.⁹⁰ There are only very few cases of oil-exporting countries that remain poor, one being Angola, which has only recently begun to exploit its oil reserves.⁹¹

4.4 Fulfilling responsibilities for compensation

Thus far we have established that both domestic and transnational impacts could override the non-compensable loss objection, in particular where they give rise to losses that are disproportionate and not outweighed by offsetting benefits. In this section I bring together the domestic and transnational levels for two purposes: to address concerns common to both levels about the scope of compensatory responsibilities; and to explore whether policy arrangements for fulfilling those responsibilities should take an integrated approach to addressing domestic and transnational impacts.

⁸⁹ Compare Charles R. Beitz, *Political theory and international relations* (Princeton, NJ: Princeton University Press, 1999 [1979]).

⁹⁰ The International Energy Agency has estimated that the solar power generation potential in the Middle East and North Africa is much larger than total global energy demand: IEA, "Renewable energy: Markets and prospects by region" *Information paper* (Paris: International Energy Agency, 2011), 70.

⁹¹ Compare Malawi, which is one of the few low-income countries whose economy is heavily dependent on tobacco production: Martin G. Otañez, Hadii M. Mamudu, and Stanton A. Glantz, "Tobacco companies' use of developing countries' economic reliance on tobacco to lobby against global tobacco control: The case of Malawi", *American Journal of Public Health* 99, no. 10 (2009).

4.4.1 *Could we rely on a single policy instrument to achieve a proportionate distribution of costs?*

So far I have suggested a two-pronged approach to a distribution of the costs of regulating harm: aiming for a proportionate distribution of direct costs across the spectrum of responsibilities and capabilities, but only providing compensation where the distribution of overall costs results in disproportionate losses for the least responsible or capable. But would it not be preferable simply to adjust the distribution of direct costs in order to achieve a proportionate distribution of overall costs?

We could describe this as a “holist” approach that uses a single policy instrument to distribute a variety of costs (as opposed to an “atomist” approach that uses separate instruments for different objectives).⁹² Domestic policies could pursue such an approach by exempting certain parties from the tax, issuing emissions entitlements free of charge, or by otherwise differentiating the tax burden according to a party’s circumstances. International cooperation could seek to introduce similar adjustments when distributing national harm mitigation efforts. In some cases such a strategy may be warranted, for example in order to offset the impacts of a carbon price on emissions-intensive industries that will be unable to keep up with competitors based in other countries that lack a carbon price.⁹³ Moreover, some theorists have explicitly argued that national climate change mitigation efforts should be shared on the basis of the economic costs of mitigation for each country (e.g. requiring countries to dedicate a uniform proportion of their national income towards mitigation).⁹⁴

However, relying on the adjustment of direct costs as a strategy for addressing indirect costs raises several concerns. First, exemptions are likely to make the policy

⁹² Compare Simon Caney’s distinction between “holist” and “atomist” theories of climate policy Caney, “Just emissions”: 258.

⁹³ Any such exceptions should be balanced against considerations of efficacy and whether they unfairly protect domestic industries: for a more detailed discussion see Garnaut, *The Garnaut Climate Change Review*, 316-17, 344-45 and Eckersley, “The politics of carbon leakage and the fairness of border measures”: 375-77.

⁹⁴ Miller, “Global justice and climate change”, 146.

less cost-effective.⁹⁵ Second, exemptions may undermine the desired deterrent effect for groups at particular risk of harm (such as discouraging low-income groups from smoking). Third, exemptions could give firms or countries an incentive to shirk their share of direct costs by making excessive and unsubstantiated claims about the indirect costs that they face.⁹⁶ Finally, tax adjustments may not be capable of benefiting those suffering disproportionate losses for, as we have seen above, adverse impacts may fall either on those who are not subject to a tax or whose losses are far greater than their tax liability. In particular, compensation to firms may not flow through to disadvantaged workers but instead to shareholders.

At the international level, one option for compensating affected parties facing high climate policy costs would be to allocate them a generous quantity of emissions permits that they could sell to offset their costs. In principle this should not compromise the efficiency benefits of international emissions trading.⁹⁷ However, since states generally retain some discretion over how they fulfil their international commitments, it may not be possible to specify the level of compensation required upfront if the impacts of domestic policy implementation have not yet materialised. Finally, given the complex ways in which taxation or the distribution of national mitigation targets affect economic activity, it may be difficult to predict the precise distribution of overall costs that an adjustment in direct costs will achieve.

4.4.2 Tradeoffs between regulating harm and compensating for the effects of regulation

Even if we acknowledge the need for an atomist approach to policy instruments, we might still maintain that it is desirable to adopt a holist view about applicable distributive principles, in that the combination of policy instruments should aim for proportionality in overall costs. Whether such a view is appropriate may depend on the magnitude and urgency of the particular harm that governments are seeking to

⁹⁵ Joseph E. Aldy and Robert N. Stavins, "The promise and problems of pricing carbon: Theory and experience", *The Journal of Environment & Development* 21, no. 2 (2012).

⁹⁶ Compare Garnaut, *The Garnaut Climate Change Review*, 315-16.

⁹⁷ See N Höhne, Michel den Elzen, and M Weiss, "Common but differentiated convergence (cdc): A new conceptual approach to long-term climate policy", *Climate Policy* 6, no. 2 (2006): 184; Aldy and Stavins, "The promise and problems of pricing carbon: Theory and experience": 171.

regulate. However, at least in the context of climate change I believe there are two reasons for arguing that compensation should focus on remedying disproportionate losses rather than achieving strict proportionality. First, while macroeconomic models are increasingly capable of producing holistic assessments of the incidence of carbon pricing policies,⁹⁸ such assessments remain sensitive to a range of methodological assumptions, and in many cases the distinction between strictly and roughly proportionate distributions will be extremely blurry.

Second, from a government's point of view, the goals of addressing the original harm and remedying the side effects of regulation tend to encroach on one another: for example, the more that governments spend on remediating climate policy impacts, the less will be available to channel carbon pricing revenue towards fiscal measures that help mitigate or adapt to climate change itself (e.g. investing in the research and development of new technologies). Since the losses that could result from a significantly warmer climate far outstrip the losses that could result from climate policies, addressing the former should have a distinctly higher priority than addressing the latter.⁹⁹ This is not to imply that the urgency of addressing global harms must necessarily displace obligations to address the indirect impacts of regulation if countries can do so at reasonable cost. Indeed Nicholas Stern has argued that "transfers to compensate countries facing disproportionately large and costly adjustments to the structure of their economies could also be borne at relatively small cost, if distributed evenly at a global level".¹⁰⁰ For similar reasons, the urgency of addressing the existing impacts of climate change (or for that matter eliminating global poverty) provides no good reason for displacing spending on climate change mitigation efforts.¹⁰¹ However, achieving a strictly proportionate distribution of overall costs in wealthy countries is likely to be significantly more expensive in wealthier countries and could divert a much larger proportion of available revenue. Focusing compensatory measures on restoring disproportionate

⁹⁸ Boccanfuso, Estache, and Savard, "The intra-country distributional impact of policies to fight climate change ": 101-03.

⁹⁹ Barnett and Dessai, "Adverse effects and the impacts of response measures": 237.

¹⁰⁰ Stern, *The economics of climate change*, 259.

¹⁰¹ Gardiner, "Ethics and climate change: An introduction", 61.

losses would therefore help to achieve an appropriate balance between the priorities of addressing the primary harm while addressing the most severe instances of secondary harm.

4.4.3 *Distributing responsibilities for domestic and international compensation*

In an isolated domestic setting it may be clear enough who bears the responsibility for compensating for disproportionate regulatory impacts: the government enacting the policy. But at the global level, where it may be difficult to attribute transnational impacts to a single government, a different approach is called for. Moreover, we face the problem that some losses that fall disproportionately on individuals in affected countries may not necessarily accumulate into losses that are disproportionate for an affected country as a whole. In order to articulate how domestic and international responsibilities for compensation could be distributed, I draw on Aaron James' account of responsibilities for remedying the adverse impacts of global trade.

James takes the view that all countries have responsibilities for evening out the benefits and losses that trade imposes on their own citizens.¹⁰² Many countries have introduced extensive domestic measures to protect their citizens from the adverse effects of their exposure to the global economy.¹⁰³ Accordingly, particularly where adverse effects are reciprocal between enacting and affected countries, or where an affected country experiences a mix of short-term benefits and losses (as in the case of changes in food prices in some countries), it may be preferable for countries to self-insure against regulatory impacts by strengthening their own domestic redistributive mechanisms and social insurance mechanisms or "social safety nets". However, even if many industrialised and some developing countries have adequate social safety nets in place, the same is not true of other developing countries that are unable—or in some cases unwilling—to safeguard their citizens'

¹⁰² James, *Fairness in practice*, 20. See also Richard Vernon, "States of risk: Should cosmopolitans favor their compatriots?", *Ethics & International Affairs* 21, no. 4 (2007).

¹⁰³ See Dani Rodrik, "Why do more open economies have bigger governments?", *Journal of Political Economy* 106, no. 5 (1998); and Stefanie Walter, "Globalization and the welfare state: Testing the microfoundations of the compensation hypothesis", *International Studies Quarterly* 54, no. 2 (2010).

wellbeing.¹⁰⁴ This places greater obligations on wealthy countries to cooperate in order to establish and strengthen international and domestic social safety nets.¹⁰⁵ It also suggests that any assistance measures should be prioritised towards least developed countries, which are the least likely to have adequate domestic social protection mechanisms.

How then should these responsibilities be distributed among enacting countries? Distributing responsibilities based on each country's causal responsibility for adverse impacts could help to hold it accountable for the consequences of its policies and provide it with an incentive to minimise those impacts. However, it could penalise those countries that are most active in introducing harm mitigation policies. By contrast, requiring those with the greatest responsibility for the original harm to provide compensation would give them a greater incentive to reduce their harmful activities. Ultimately, the difficulty of attributing specific impacts to particular agents may mean that the only feasible option—at least in the climate change case—is to distribute responsibilities by reference to countries' contribution to the original harm, which is easier to quantify than responsibilities for transnational impacts.

4.4.4 Implications for institutional design

What does our discussion so far imply for the design of policy instruments? First of all, the empirical uncertainties about indirect impacts and the transaction costs associated with any remedial measures underscore the importance of minimising such impacts as a first resort.¹⁰⁶ When disproportionate losses occur despite enacting countries' having taken reasonable harm minimisation measures, compensation may be required. However, the same empirical uncertainties suggest that an approach to compensation modelled on judicial cases of civil liability—where the amount of compensation is often tied to the quantum of loss to specific individuals—is unlikely to be suitable. In the context of climate change, a better

¹⁰⁴ James, *Fairness in practice*, 213. See also Boccanfuso, Estache, and Savard, "The intra-country distributional impact of policies to fight climate change: A survey": 107.

¹⁰⁵ James, *Fairness in practice*, 20, 213.

¹⁰⁶ Compare Goodin, "Enfranchising all affected interests, and its alternatives", 67.

remedy is likely to involve measures that enable affected parties or countries to make a “just transition”¹⁰⁷ to an emissions-constrained economy.

Funding to help affected parties reduce their emissions (e.g. by switching to renewable energy sources or implementing energy efficiency measures) could help some to minimise their exposure to impacts from volatile prices. Nevertheless, the difficulty of distinguishing the impacts of a specific policy from broader changes in economic circumstances suggests that an integrated approach to designing remedial measures is necessary. For it may matter little to an unemployed person whether they have lost their job due to the phase-out of a heavily polluting industry, the effects of trade liberalisation, or the effects of higher temperatures on agricultural productivity.¹⁰⁸ In some cases, as where a coal-mining region will be hit by the effects a carbon price, it may be appropriate to provide retraining programs and assistance for industrial restructuring that are specifically tailored to those regional effects.¹⁰⁹ But in many other cases it will be preferable to strengthen general social safety nets—such as unemployment insurance— or provide tax breaks for low-income earners, both of which may protect vulnerable people against a range of economic shocks.¹¹⁰ Even if these measures are delivered in an integrated fashion, the additional funding required could still be derived from the revenue raised specifically from regulating the harm in question.¹¹¹ Some countries, for example Germany, have already earmarked a portion of their domestic carbon pricing revenue to support mitigation and adaptation in developing countries.¹¹² This could provide a model for enacting countries to earmark a share of any

¹⁰⁷ UNFCCC, "The Cancún Agreements ", Paragraph 10.

¹⁰⁸ Social protection needs will also increase due to climate change itself: Anabella Rosemberg, "Building a just transition: The linkages between climate change and employment", *International Journal of Labour Research* 2, no. 2 (2010): 144.

¹⁰⁹ Garnaut, *The Garnaut Climate Change Review*, 398.

¹¹⁰ Compare Eckersley, "The politics of carbon leakage and the fairness of border measures": 380. For similar arguments in relation to global trade, see James, *Fairness in practice: A social contract for a global economy*, 20.

¹¹¹ Garnaut, *The Garnaut Climate Change Review*, 394.

¹¹² Martin Stadelmann, Jessica Brown, and Lena Hörnlein, "Fast-start finance: Scattered governance, information and programmes" in *Carbon markets or climate finance? Low carbon and adaptation investment choices for the developing world*, ed. Axel Michaelowa (London: Routledge, 2012), 128.

revenue raised from regulating harm in order to address impacts not only at home but also abroad.¹¹³

4.5 Conclusion

While the domestic and transnational impacts of measures to regulate harmful activities differ in various respects, this article has demonstrated that the moral differences between them are not as stark as they are often perceived to be. We have seen that the analogy between smoking and climate change captures a widely held and morally plausible belief about the legitimacy of government action to regulate public harms and to set corresponding limits on entitlements to compensation for regulatory impacts. Difficulties in estimating losses make the transnational case for compensation harder (though not impossible) to establish. At the same time, estimation problems make it harder to claim that offsetting benefits will outweigh any such losses. Even though we may rely on responsibilities of distributive justice more readily at the domestic level, global cooperation on trade and the regulation of specific harms provides a dual basis for grounding transnational duties of compensation that are more stringent than humanitarian duties.

As we have seen, principles developed in the literature on government compensation and under the climate change regime happily converge on the idea that remediation may be due where impacts fall disproportionately on the least responsible and the least capable. This provides a strong reason for compensating workers (as in the Worker example) and consumers outside the supply chain (as in the Food Consumer example) who suffer severe hardship as a result of policies to regulate harm. Whether consumers of harmful products deserve compensation will depend on the degree of hardship, the extent to which they have alternative consumption options and whether they receive other short-term benefits from regulation. This suggests that the case for compensating low-income consumers for the introduction of climate policies is generally stronger than that for compensating

¹¹³ See also Eckersley, "The politics of carbon leakage and the fairness of border measures": 388.

those affected by regulating discretionary but harmful activities such as smoking and gambling.¹¹⁴ However, the idea of disproportionate loss provides little reason for compensating producers (as in the Exporter example), since most will have the means to diversify away from harmful activities at reasonable cost to themselves, except perhaps for the poorest countries whose economies are heavily dependent on producing harmful goods.

Where duties of compensation arise, they may apply regardless of where affected parties live, although transnational remedies may be necessary principally where affected parties have insufficient recourse to safety nets in their own countries. Further research is necessary to assess whether the idea of disproportionate loss represents an appropriate standard for compensation in other areas where public policies cause adverse cross-border impacts. However, by focusing on disproportionate losses and grounding duties to address them in common participation in harm reduction efforts rather than in cosmopolitan obligations that apply irrespective of institutional relationships, I have proposed a standard that is demanding but not, I believe, open-ended. A balance will need to be struck between the urgent need to address the harms resulting from climate change itself and the flow-on harms resulting from measures to address climate change, which may be felt no less keenly by vulnerable groups in the short term. Moreover, striking the right balance between compensating domestic and overseas interests will remain challenging. But given prevailing global economic inequalities, remedial duties may require governments to reserve less revenue to compensate their own citizens and more for those beyond their borders who suffer severe hardship.

¹¹⁴ Admittedly, in weighing up consumers' claims for compensation in these latter cases we may need to take into account the fact that for many consumers these activities are problems of addiction. By comparison, former US President George W. Bush famously observed that "America is addicted to oil" (Elisabeth Bumiller and Adam Nagourney, "Bush: 'America is addicted to oil'" *New York Times* 2006), although his primary response to this was to encourage a different type of addiction (to shale gas).

**Part II. Designing fair institutions to finance action on climate change
in developing countries**

Chapter 5. Splitting the difference in global climate finance: Are fragmentation and legitimacy mutually exclusive?

Jonathan Pickering, Frank Jotzo and Peter Wood¹

Introductory note

The chapters so far have largely worked within the field of climate ethics. Chapters 5 and 6 connect with broader research on environmental governance and development respectively, emanating from the fields of political science, international relations and economics. Collaboration on Chapter 5 began with a working paper that identified options for Australia to raise sufficient funds to meet its long-term climate finance commitment.² The present chapter generalises to the international level a number of issues identified in the working paper, and connects them with broader considerations of legitimacy in global environmental governance.

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¹ Submitted to *Global Environmental Politics*.

² Jotzo, Pickering, and Wood, "Fulfilling Australia's international climate finance commitments: Which sources of financing are promising and how much could they raise?".

Abstract

International funding for climate change action in developing countries may enhance the legitimacy of global climate governance, but fragmented approaches to mobilising funds raise further legitimacy challenges. We analyse potential for unilateral and coordinated efforts to advance “output” and “input” legitimacy respectively by raising adequate funds and representing affected interests in contributing and recipient countries. While legitimacy requires coordinated approaches to goal-setting, oversight and effort-sharing, vesting contributing countries with substantial discretion over funding sources may enhance taxpayers’ support and boost funding more rapidly. However, some multilateral coordination is necessary to maximise revenue from carbon pricing and minimise adverse impacts of funding choices on developing countries. Our findings show that a moderate degree of fragmentation is necessary for achieving input legitimacy and output legitimacy in mobilising climate finance, but extensive fragmentation is compatible with neither.

5.1 Introduction

Mobilising finance to address climate change in developing countries will be crucial for their engagement in global efforts to cut greenhouse gas emissions. Funding commitments by wealthy countries may help to promote the legitimacy of global climate governance by ensuring a more equitable distribution of the costs of reducing emissions and adjusting to the impacts of rising temperatures, and by demonstrating good faith on the part of developed countries. Conversely, if wealthy countries fail to fulfil the commitment they made in 2009 to mobilise \$100 billion a year in climate finance by 2020, the climate regime's legitimacy will suffer lasting damage.

With many developed countries continuing to experience challenging fiscal conditions, poorer countries are increasingly uncertain about whether the former are on track to scale up funding towards the long-term commitment. Against this backdrop, achieving legitimacy in global climate finance will require identifying sources of funding that are sufficient to meet the collective commitment without disproportionately burdening some countries and demanding too little of others. At the same time, legitimacy will require crafting institutional arrangements to represent the interests of those in contributor and recipient countries most affected by funding decisions.

A notable feature of current multilateral efforts to raise climate finance is that developed and developing countries have agreed to “split the difference”, not only by sharing responsibility for funding mitigation and adaptation measures in developing countries, but also by spreading the task of mobilising the required funding across a range of sources and institutions. Recent scholarship on global environmental governance has drawn attention to the ways in which fragmented governance—for example through unilateral action or “minilateral” action comprising a limited group of countries rather than under a cohesive multilateral framework—may complicate efforts to secure legitimacy.¹ However, significant

¹ Frank Biermann et al., “The fragmentation of global governance architectures: A framework for analysis”, *Global Environmental Politics* 9, no. 4 (2009); Fariborz Zelli and Harro van Asselt,

disagreement persists both in the scholarly literature and among negotiating countries over whether fragmentation necessarily undermines or potentially enhances legitimacy. Moreover, understanding remains limited about whether the effects of fragmentation vary across and within different types of institutions.

Through the case study of climate finance, we aim to inform theoretical understandings of how requirements for legitimacy may vary across the policy functions that institutions perform. We examine how fragmentation in mobilising resources may affect legitimacy in ways that are distinct from its effects on other policy functions such as overall goal-setting, oversight, and delivery of resources. Thus, whereas there is a strong case for coordinated approaches to setting and monitoring aggregate commitments of climate finance, we argue that contributor countries may justifiably retain significant discretion over how they raise revenue to meet their international or domestic commitments. This suggests that some degree of fragmentation in resource mobilisation arrangements may be compatible with (and indeed necessary for) legitimacy. Our analysis of two major aspects of resource mobilisation—effort-sharing and the selection of funding sources—indicates that a range of countervailing reasons nevertheless point to the need for a substantial degree of international coordination. These reasons include deterring free-riding, harnessing sources that simultaneously reduce emissions, and minimising the adverse impacts of fundraising methods on developing countries.

Our analysis encompasses multiple strands of evidence, including lessons from existing financing and mitigation efforts, deliberations under the UN Framework Convention on Climate Change (UNFCCC) spanning 2008 to late 2013, and economic and political analysis of longer-term financing sources. We also evaluate quantitative indicators for sharing the financing effort among developed countries. We conclude by identifying policy implications and implications of our findings for broader research on fragmentation and legitimacy.

"Introduction: The institutional fragmentation of global environmental governance: Causes, consequences, and responses", *Global Environmental Politics* 13, no. 3 (2013); Sylvia I. Karlsson-Vinkhuyzen and Jeffrey McGee, "Legitimacy in an era of fragmentation: The case of global climate governance", *Global Environmental Politics* 13, no. 3 (2013).

5.2 Fragmentation and legitimacy in climate policy: a conceptual framework

5.2.1 Dimensions of fragmentation

The concept of fragmentation we apply builds on the foundational work of Frank Biermann and colleagues, who define fragmentation in global governance as:

a patchwork of international institutions that are different in their character (organizations, regimes, and implicit norms), their constituencies (public and private), their spatial scope (from bilateral to global), and their subject matter (from specific policy fields to universal concerns).²

Thus defined, the concept of fragmentation encompasses “horizontal” fragmentation among and within *international* institutions, and to this extent shares common ground with debates about the value of multilateral versus unilateral variants of international coordination.³ At the same time, we may readily extend the concept to encompass “vertical” fragmentation among international, national and sub-national levels of governance. Conceptualising fragmentation as having a vertical dimension helps to orient it in relation to the literature on “top-down” versus “bottom-up” approaches to climate governance.⁴

While much of the literature on fragmentation in climate governance has focused on its overall institutional setting or architecture, our analysis follows the strand of research that has addressed fragmentation within specific components of the architecture, while taking into account existing levels of overall fragmentation.⁵ We

² Biermann et al., "The fragmentation of global governance architectures": 16.

³ Eckersley, "Moving forward in climate negotiations"; Gregory Shaffer and Daniel Bodansky, "Transnationalism, unilateralism and international law", *Transnational Environmental Law* 1, no. 1 (2012).

⁴ William Hare et al., "The architecture of the global climate regime: A top-down perspective", *Climate Policy* 10, no. 6 (2010); Daniel Bodansky, "A tale of two architectures: The once and future UN climate change regime", *SSRN eLibrary* (2011); compare also Ostrom, "Polycentric systems for coping with collective action and global environmental change".

⁵ Harro van Asselt and Fariborz Zelli, "Connect the dots: Managing the fragmentation of global climate governance", *Environmental Economics and Policy Studies* (2013).

will primarily focus on the implications of three configurations of integrated vis-à-vis fragmented governance that are prominent in debates about climate finance: (i) multilateral coordination under the UNFCCC (vertically and horizontally integrated), (ii) minilateral coordination among contributor countries (vertically integrated, horizontally fragmented) and (iii) unilateral action by contributor countries (horizontally and vertically fragmented). Other important configurations include coordination through other multilateral organisations and delegating public authority over the fulfillment of commitments to private investors.⁶

5.2.2 Climate finance and its associated policy functions

In recent years climate finance has become a priority for multilateral climate change negotiations alongside deliberations on national mitigation actions. Climate finance received a major boost at the fifteenth Conference of the Parties to the UNFCCC in 2009. Under the Copenhagen Accord, developed countries committed to provide climate finance approaching US\$30 billion between 2010 and 2012 (“fast-start finance”) and to mobilise long-term finance of US\$100 billion a year by 2020.⁷ Parties have not agreed on an official definition of what should count as climate finance, but for present purposes we use the following working definition: “financial flows mobilised by industrialised country governments and private entities that support climate change mitigation and adaptation in developing countries”.⁸

For present purposes we may distinguish three major policy functions associated with climate finance: (i) goal-setting; (ii) implementation; and (iii) oversight.⁹ These functions and associated sub-functions are illustrated in Figure 5.1 below. We have framed our typology in terms that enable us to draw comparisons with related

⁶ See Eva Lövbrand, Teresia Rindeljäll, and Joakim Nordqvist, "Closing the legitimacy gap in global environmental governance? Lessons from the emerging CDM market", *Global Environmental Politics* 9, no. 2 (2009) and Jessica F. Green, "Order out of chaos: Public and private rules for managing carbon", *Global Environmental Politics* 13, no. 2 (2013).

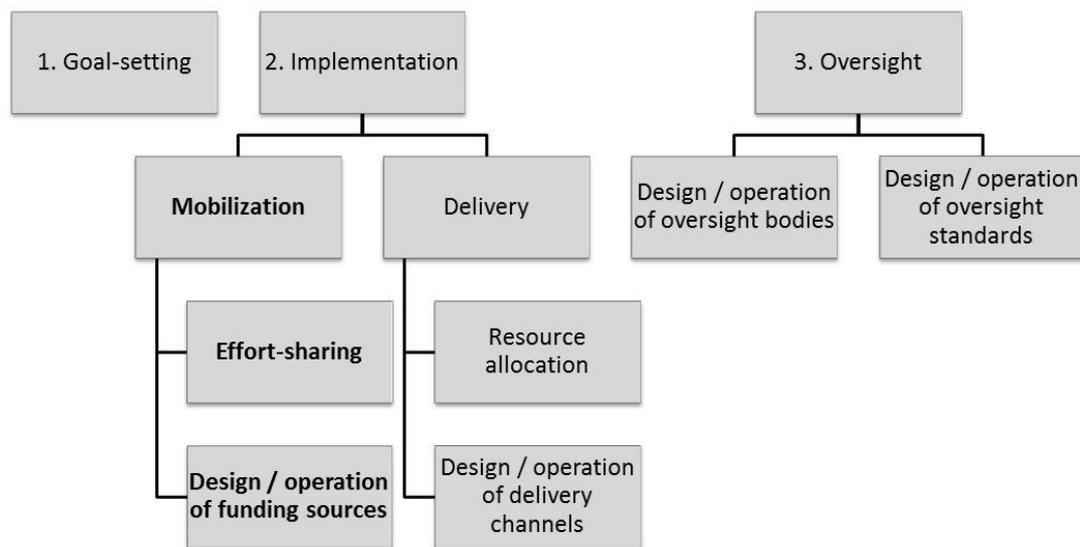
⁷ Copenhagen Accord, Paragraph 8.

⁸ Martin Stadelmann, Axel Michaelowa, and J. Timmons Roberts, "Difficulties in accounting for private finance in international climate policy", *Climate Policy* 13, no. 5 (2013), 3.

⁹ This typology modifies and expands upon one set out in Jonathan Pickering and Peter J. Wood, "Climate finance for developing countries" in *Climate change: Global risks, challenges and decisions*, ed. Katherine Richardson, et al. (Cambridge, UK: Cambridge University Press, 2011).

policy domains or sub-domains involving international commitments, including national climate change mitigation efforts and development assistance.

Figure 5.1. Policy functions associated with climate finance and related international commitments



Note: Functions in bold text indicate primary coverage of the present article.

5.2.3 Criteria for legitimacy in climate finance

In a recent journal special issue on fragmentation, editors Fariborz Zelli and Harro van Asselt called for further research aimed at “examining implications of institutional fragmentation beyond the level of output effectiveness, for the compliance and problem-solving effectiveness of affected institutions.”¹⁰ The concept of legitimacy provides a useful yardstick for evaluation as it can encompass the implications of fragmentation for institutional *effectiveness* (or “output” legitimacy) as well as for the quality of institutional decision-making *procedures*

¹⁰ Zelli and van Asselt, "Introduction: The institutional fragmentation of global environmental governance": 10.

("input" or procedural legitimacy).¹¹ At the same time, applying the concept of legitimacy enables us to situate our evaluation within the context of broader debates about legitimacy in political philosophy and international law.¹²

In this article we adopt a normative analysis of legitimacy, according to which an institution is legitimate "if there are good reasons in support of its claims to authority."¹³ To be fully legitimate, rules and institutions require both output *and* input legitimacy.¹⁴ Input legitimacy is important both instrumentally (as a means of securing greater output legitimacy) and intrinsically (as a measure of respect for the interests and autonomy of others). However, as we discuss below, difficult tradeoffs may arise between these two dimensions of legitimacy.

Table 5.1 synthesises a range of criteria commonly invoked in academic discussion of legitimacy or fairness in climate finance¹⁵ and related official documents¹⁶—including the Copenhagen Accord and the report of the UN High-Level Advisory Group on Climate Change Financing (AGF)—and maps them against the dimensions

¹¹ Lövbrand, Rindeljäll, and Nordqvist, "Closing the legitimacy gap in global environmental governance? Lessons from the emerging CDM market"; see also Frank Biermann and Aarti Gupta, "Accountability and legitimacy in earth system governance: A research framework", *Ecological Economics* 70, no. 11 (2011), 1858. Some typologies also include a third aspect of "source-based" legitimacy: see Bodansky, "The legitimacy of international governance"; Karlsson-Vinkhuyzen and McGee, "Legitimacy in an era of fragmentation". For parsimony we largely subsume this aspect under criteria of participation and political acceptability, while acknowledging that future research could expand upon this aspect.

¹² Buchanan and Keohane, "The legitimacy of global governance institutions"; Bodansky, "The legitimacy of international governance".

¹³ Bodansky, "The legitimacy of international governance: A coming challenge for international environmental law?": 601; see also Lövbrand, Rindeljäll, and Nordqvist, "Closing the legitimacy gap in global environmental governance? Lessons from the emerging CDM market".

¹⁴ Lövbrand, Rindeljäll, and Nordqvist, "Closing the legitimacy gap in global environmental governance?": 77.

¹⁵ Athena Ballesteros et al., "Power, responsibility, and accountability: Rethinking the legitimacy of institutions for climate finance", *Climate Law* 1 (2010); Marco Grasso, "An ethical approach to climate adaptation finance", *Global Environmental Change* 20, no. 1 (2010); Andries F. Hof, Michel G. J. den Elzen, and Angelica Mendoza Beltran, "Predictability, equitability and adequacy of post-2012 international climate financing proposals", *Environmental Science & Policy* 14, no. 6 (2011); Liane Schalatek, "Democratizing climate finance governance and the public funding of climate action", *Democratization* 19, no. 5 (2012); David Ciple, J. Timmons Roberts, and Mizan Khan, "The politics of international climate adaptation funding: Justice and divisions in the greenhouse", *Global Environmental Politics* 13, no. 1 (2013).

¹⁶ Copenhagen Accord; AGF, "Report of the secretary-general's high-level advisory group on climate change financing".

of output and input legitimacy. While some of these documents formulated criteria specifically for evaluating funding sources, we show how a common framework can encapsulate other functions associated with climate finance. We have incorporated some factors that could function as criteria for overall desirability but also have a specific bearing on legitimacy, such as efficiency and equity. For parsimony we have also subsumed under other criteria some factors that are often treated separately (reliability, practicality and additionality).

Table 5.1. Criteria for legitimacy in climate finance

Principles	Criteria
Output legitimacy (effectiveness)	<p>Adequacy:^{*#} Is the goal adequate for meeting recipients' needs? Is the collective effort or package of financing sources adequate to fulfil the commitment? Are funding sources practicable[#] and reliable^{**}? Does funding delivered yield effective mitigation and adaptation?</p> <p>Efficiency:[#] Does the source or delivery measure create incentives to reduce greenhouse gas emissions, and does it reduce or exacerbate economic distortions? Is the funding delivered cost-effectively?</p> <p>Equity:[#] Does the financing burden (or incidence[#]) fall disproportionately on particularly disadvantaged countries or individuals? Is the source likely to be additional^{**} to or to displace existing resources available to developing countries? Is funding allocated equitably?</p>
Input (procedural) legitimacy	<p>Transparency* and accountability: Can funding mobilised and delivered be adequately measured, reported and verified?</p> <p>Participation: Are affected public and private actors involved or represented in decision-making?</p> <p>Acceptability:[#] Is the goal, source or delivery measure likely to be accepted by constituencies in contributor and recipient countries?</p>

Note: Symbols indicate whether criteria are mentioned (either verbatim or in synonymous terms) in the Copenhagen Accord (*) or Advisory Group on Climate Change Financing (AGF 2010) (#).

5.3 Do coordination requirements vary across policy functions?

Recent scholarship has highlighted a “legitimacy gap” and a “democratic deficit” in the institutional architecture for governing climate finance, and in doing so has suggested that fragmentation may be part of the problem.¹⁷ Liane Schalatek, for

¹⁷ Lövbrand, Rindeljäll, and Nordqvist, "Closing the legitimacy gap in global environmental governance?": 74; Schalatek, "Democratizing climate finance governance": 952.

example, argues that the present multiplicity of institutions and actors involved in governing climate finance

creates an overall lack of transparency and accountability [...], preventing citizens in contributor and recipient countries from having a stake or say in the way public climate funds are raised, governed, allocated and implemented.¹⁸

However, the few works that have addressed legitimacy or fairness in implementing climate finance have placed less emphasis on resource mobilisation than on other policy functions.¹⁹ Accordingly, further analysis is necessary to determine whether the role of fragmentation in widening the legitimacy gap applies as much to resource mobilisation as to other policy functions associated with climate finance.

5.3.1 Multilateralism as the gold standard for legitimacy

Many commentators consider multilateral coordination to be the highest standard for legitimacy in international governance. Consensual multilateral decision-making may offer greater scope for inclusive and transparent deliberation, thereby helping to curb abuses of power.²⁰ Multilateral coordination may also secure greater output legitimacy in addressing collective action problems such as climate change. Thus William Hare et al argue that only coordinated or top-down approaches to mitigation will be able to circumvent free-riding problems.²¹ Sylvia Karlsson-Vinkhuyzen and Jeffrey McGee argue that, even though the UNFCCC falls well short of being a paragon of effective action, a range of parallel unilateral

¹⁸ Schalatek, "Democratizing climate finance governance": 953.

¹⁹ Ballesteros et al., "Power, responsibility, and accountability"; Grasso, "An ethical approach to climate adaptation finance"; Schalatek, "Democratizing climate finance governance"; Cipler, Roberts, and Khan, "The politics of international climate adaptation funding".

²⁰ See Michael Zürn, "Global governance and legitimacy problems", *Government and Opposition* 39, no. 2 (2004); Biermann et al., "The fragmentation of global governance architectures": 30.

²¹ Hare et al., "The architecture of the global climate regime: A top-down perspective": 604; see also Biermann and Gupta, "Accountability and legitimacy in earth system governance: A research framework": 26-28.

forums on climate change spearheaded by developed countries have fared considerably worse on both output and input legitimacy.²²

While a presumption in favour of multilateral coordination to address global collective action problems seems plausible, it is vulnerable to two strands of objection. First, more fragmented approaches could potentially achieve greater output legitimacy—even at the cost of input legitimacy—particularly in second-best (or “non-ideal”) circumstances where information and compliance levels are limited. Given the limited timeframe available to address global climate change, it may be impossible to realise ideals of procedural legitimacy typically requiring intensive multilateral coordination such as the representation of all affected interests.²³ Even if fragmented approaches cannot entirely overcome collective action problems, some argue that interstate competition for clean technology investment may in turn stimulate a “race to the top” among countries intent on cutting their greenhouse gas emissions.²⁴

A second objection is that even if there is a strong case for multilateral coordination in setting overarching goals, it may not necessitate tightly integrated *implementation* of those goals. In many areas of international law and international relations it is common to assert that sovereign states should enjoy a “margin of appreciation” in regard to how they fulfil their international commitments.²⁵ Indeed, in addressing collective action problems such as climate change, a degree of fragmentation in implementation is a matter of practical necessity, since the source of the problem (greenhouse gas emissions), the resources available to address the problem (public revenue and private capital) and those who can change their actions (households and firms) all reside largely within the borders of individual countries, and are subject to those countries’ institutions. Devolving

²² Karlsson-Vinkhuyzen and McGee, “Legitimacy in an era of fragmentation”: 74.

²³ Eckersley, “Moving forward in climate negotiations”: 28.

²⁴ Bodansky, “A tale of two architectures”; Keohane and Victor, “The regime complex for climate change”; Ostrom, “Polycentric systems”.

²⁵ Yuval Shany, “Toward a general margin of appreciation doctrine in international law?”, *European Journal of International Law* 16, no. 5 (2005).

implementation to national and sub-national levels may also enhance input legitimacy by facilitating the direct participation of affected groups.²⁶

Clearly the applicability of these objections may vary across policy domains. Here we focus on evaluating the extent to which each objection affects the legitimacy of fragmentation in climate finance.

5.3.2 Does climate finance require comprehensive multilateral coordination?

5.3.2.1 Goal-setting and oversight

Mobilising adequate global climate finance, like climate change mitigation, involves a collective action problem and is therefore vulnerable to the risk that some countries will free-ride on the actions of others.²⁷ For this reason, multilateral agreement on a common goal is strongly preferable in both cases. Developing countries have argued that the 2020 commitment falls considerably short of their financing needs. While there are relatively few systematic estimates of needs in 2020, numerous analyses estimate that they could exceed \$200 billion a year by 2030.²⁸ However, as with national mitigation efforts, it is unlikely that parties could secure funding levels higher than the present financing commitment in the absence of a coordinated goal.²⁹

The case for coordinated oversight (or, in the terminology of the UNFCCC, measurement, reporting and verification (MRV)) is likewise strong for both climate finance and national mitigation efforts, and attracts support from advocates of both top-down and bottom-up approaches to mitigation.³⁰ An important rationale for coordinated oversight arrangements for finance and national mitigation is that both

²⁶ Compare Ostrom, "Polycentric systems".

²⁷ Patrick Bayer and Johannes Urpelainen, "Funding global public goods: The dark side of multilateralism", *Review of Policy Research* 30, no. 2 (2013).

²⁸ Erik Haites, "International climate finance" in *International climate finance*, ed. Erik Haites (London: Routledge, 2013), 8.

²⁹ Compare Jon Hovi, Detlef F. Sprinz, and Arild Underdal, "Implementing long-term climate policy: Time inconsistency, domestic politics, international anarchy", *Global Environmental Politics* 9, no. 3 (2009).

³⁰ Hare et al., "The architecture of the global climate regime": 604, 607; Bodansky, "A tale of two architectures".

those who bear the costs and those who benefit have an interest in knowing how much effort governments are expending and whether that effort is producing the desired results.

Parties have agreed on the need for credible arrangements to oversee the delivery and mobilisation of funding, including periodic reporting by contributors and recipients, as well as the establishment of a Standing Committee on Finance to assist the UNFCCC in improving coherence and coordination in institutional arrangements for climate finance.³¹ However, ongoing disagreement between developed and developing countries over whether and how certain types of flows should count towards the overall commitment illustrates the risks associated with a fragmented approach to setting oversight standards. In particular, contributors have adopted widely different approaches to accounting for aid and private finance. Overly inclusive approaches could violate the requirement that commitments be “new and additional” if, for example, they divert aid from purposes that may be of greater immediate benefit for developing countries or count private finance that would have flowed to developing countries even in the absence of the commitment.³² Indeed, if parties were to adopt an expansive approach to accounting for private sources, such flows could indeed already exceed \$100 billion a year.³³ Counting these flows in their entirety towards the 2020 target with the wave of an accounting wand would render the target meaningless. For these reasons, countries should intensify coordinated international efforts to establish credible accounting methods for both aid and private finance.

5.3.2.2 Implementation: distinguishing delivery and mobilisation

The arguments canvassed above in favour of fragmented implementation appear to translate relatively well to the delivery of climate finance. Contributors delivered

³¹ UNFCCC, "The Cancún Agreements", Paragraphs 96, 112.

³² Martin Stadelmann, J. Timmons Roberts, and Axel Michaelowa, "New and additional to what? Assessing options for baselines to assess climate finance pledges", *Climate and Development* 3, no. 3 (2011).

³³ Stadelmann, Michaelowa, and Roberts, "Difficulties in accounting for private finance in international climate policy": 16; Barbara Buchner et al., "The global landscape of climate finance 2013" (Venice: Climate Policy Initiative, 2013).

their fast-start finance through a highly fragmented range of bilateral and multilateral funding channels, many of which (such as bilateral aid agencies) are closely aligned with contributors' priorities.³⁴ Countries have recognised the need for at least some degree of decentralisation in delivery through a "country-driven" approach involving stakeholders in recipient countries.³⁵ At the same time, developed and developing countries have acknowledged that the existing tangle of delivery channels will be inadequate to manage much larger volumes of funds over the longer term. This was a major driver for agreement to establish a UN Green Climate Fund (GCF), which may go some way in reducing duplication of effort (or what Biermann and colleagues call "conflictive" fragmentation³⁶) and integrating at least some financing efforts under an institution that gives equal representation to developing and developed countries.³⁷

It is much less clear that the degree of coordination required for the policy functions discussed so far pre-determines the level of coordination necessary to secure legitimacy in *mobilising* funds. Admittedly, coordinated oversight standards may place some constraints on the range of funding sources that contributors may count towards meeting their commitments. Moreover, choices about some delivery channels imply particular configurations for mobilising funds (as in the case of private finance, which decentralises both mobilisation and delivery decisions to market actors). But beyond this, many options for delivering finance are compatible with a wide range of more or less fragmented options for mobilisation.³⁸

There are, moreover, two strong reasons for thinking that legitimacy in mobilisation may require a significant degree of fragmentation. Consider first the case for output legitimacy. Contributors began from a relatively fragmented starting point, since

³⁴ Stadelmann, Brown, and Hörnlein, "Fast-start finance".

³⁵ UNFCCC, "Launching the Green Climate Fund", Decision 3/CP.17. 17th Conference of the Parties to the UNFCCC. Durban, 2011. (2012), Annex, Paragraph 3.

³⁶ Biermann et al., "The fragmentation of global governance architectures": 19-20.

³⁷ Schalatek, "Democratizing climate finance governance": 961; Ciplet, Roberts, and Khan, "The politics of international climate adaptation funding": 58.

³⁸ Alex Bowen, "Raising climate finance to support developing country action: Some economic considerations", *Climate Policy* 11, no. 3 (2011): 1026.

they relied on domestic aid budgets to mobilise the large bulk of their fast-start commitments. However, the Copenhagen Accord cleared the way for further fragmentation by stipulating that the long-term target would be drawn “from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance.”³⁹ Despite ongoing disagreement about the range of eligible sources, both contributors and recipients appear to share some common ground on why some degree of fragmentation is necessary. First, there is widespread recognition that no single source will be adequate to fulfil the entire commitment.⁴⁰ In particular, attempts to divert much larger shares of aid for climate change purposes will encounter strong political resistance from developing countries as well as constituencies supportive of aid in contributing countries. Second, no single source will be capable of effectively addressing the range of actions that require funding in developing countries. Private finance, while vital for adequate mitigation, is not well equipped to become the exclusive means of addressing climate-related financing needs, particularly since many adaptation measures offer little scope for commercially motivated investment and are best addressed through public resources.⁴¹

A second argument for fragmented mobilisation rests on input legitimacy. Contributor countries have emphasised that they should be entitled to a substantial degree of discretion in their choices about mobilisation. The US, for example, has argued:

There was no agreement to have the [UNFCCC’s Conference of the Parties] determine, limit, or otherwise take decisions on sources, whether the relative contributions of public and private finance or otherwise. Rather, a fundamental backdrop to

³⁹ Copenhagen Accord, Paragraph 8; UNFCCC, "The Cancún Agreements ", Paragraph 99.

⁴⁰ AGF, "Report"; and UNFCCC, "Report on the workshops of the work programme on long-term finance: Note by the co-chairs", FCCC/CP/2012/3 (6 November 2012) (Bonn: UNFCCC, 2012), 14.

⁴¹ Bowen, "Raising climate finance to support developing country action": 1021-22.

[Conferences of the Parties in 2009 and 2010] was that each country is free to determine the mode and source of its climate finance contributions.⁴²

The EU, while apparently more open to coordinated approaches to mobilisation, has emphasised the importance of maintaining “fiscal sovereignty” in its choices about sources.⁴³

Developing countries, by contrast, have argued for a more systematic or coordinated approach not only to goal-setting and burden-sharing—by proposing that commitments be based on a fixed percentage of contributors’ national income—but also to the range of sources that contributors may employ.⁴⁴

Nevertheless, India has acknowledged that some funding “could be generated, according to the *national discretion* of such Parties concerned[,] from new instruments in accordance with the principles of Common but Differentiated Responsibilities.”⁴⁵

The idea of fiscal sovereignty not only reflects more general notions of national sovereignty in international relations, but also embodies the view that taxation and expenditure arrangements form part of the domestic social contract between governments and their citizens.⁴⁶ Let us assume that procedural legitimacy requires at the very least the participation of those *most* affected (if not all those affected in any way) by a government’s decisions.⁴⁷ On this basis it is plausible to think that taxpayers in contributing countries have a stronger claim to participate in mobilisation decisions than recipients, just as potential recipients have a stronger claim to participating in decisions about the delivery of funding. On this basis, we

⁴² United States, “Submission by the United States of America on long-term finance”, FCCC/AWGLCA/2011/CRP.35 (27 November 2011) (2011); emphasis added.

⁴³ European Commission, “Submission to UNFCCC work programme on long-term finance” (UNFCCC, 2013).

⁴⁴ South Centre, “Operationalizing the UNFCCC finance mechanism” *Research Paper 39 (May 2011)* (2011), 11.

⁴⁵ India, “India’s views on elements for decision on long term finance” (Bonn: UNFCCC, 2011).

⁴⁶ Peter Dietsch, “Rethinking sovereignty in international fiscal policy”, *Review of International Studies* 37, no. 5 (2011).

⁴⁷ See Eckersley, “Moving forward in climate negotiations”: 27.

might assume that as long as contributing countries represent the interests of their own citizens according to domestic standards of legitimacy, little, if any, multilateral standardisation or scrutiny of fundraising is required. Nevertheless, as we argue in the following sections, a number of important countervailing considerations may require a more integrated approach.

5.4 Effort-sharing: *ad hoc* and formulaic approaches

Even though parties have agreed on a coordinated funding goal, disagreement persists over whether a coordinated process is required to apportion efforts among contributing countries. Contributors announced their individual fast-start commitments in an apparently *ad hoc* fashion at the Copenhagen conference and in the months thereafter. As it happened, individual pledges were sufficient to cover the collective fast-start commitment, although a substantial proportion of funds pledged had not yet flowed through implementing agencies towards the end of the 2010-12 fast-start period.⁴⁸ On this basis, one could argue that a “bottom-up” approach to effort-sharing is sufficient for securing adequate funding, as some countries may have reputational motivations for unilaterally making up for shortfalls in the overall commitment (as Japan and Norway did in the case of fast-start finance).⁴⁹

However, when the stakes are considerably higher—as in the long-term finance commitment, which requires a ten-fold increase in annual funding, or for that matter overall mitigation commitments—it is far less likely that parties will be able to rely upon unilateral action of this kind. A coordinated approach to effort-sharing can help to build common expectations, foster transparency and dispel suspicions that countries are either being forced to do more than—or getting away with less than—their fair share.

In this section we present quantitative analysis comparing more or less fragmented approaches to effort-sharing. In keeping with our focus on implementing agreed

⁴⁸ David Cipler et al., "The eight unmet promises of fast-start climate finance" *IIED briefing* (London: International Institute for Environment and Development, 2012).

⁴⁹ Compare *ibid.*

goals, we limit our discussion here to effort-sharing within previously agreed parameters, namely how to distribute responsibility for meeting the \$100 billion commitment, or the public proportionate thereof, among “developed” (Annex II) countries. As we have argued elsewhere, however, there are strong reasons for expanding the contribution group to include a number of other countries with high per capita emissions and income that the UNFCCC does not currently class as developed countries.⁵⁰ Since private flows are much harder to attribute to individual countries, collective agreement on a goal for public funding would significantly help constructive deliberation on effort-sharing.

One option for a coordinated approach to effort-sharing widely favoured by developing countries is to calculate contributors’ shares on the basis of a scale or index of contribution.⁵¹ Scales of contribution have been adopted for several other multilateral funding mechanisms,⁵² and the European Union has supported the use of a uniform scale for calculating climate finance commitments.⁵³ However, some countries including the United States remain reluctant to countenance formulae for sharing either mitigation or financing efforts.⁵⁴

Table 5.2 shows illustrative shares for the five largest Annex II contributors of fast-start finance. We primarily use a range of indicators based on the UNFCCC principle of parties’ “common but differentiated responsibilities and respective capabilities”, measured respectively in terms of national emissions and income.⁵⁵ We also include indicators based on countries’ existing shares of funding for international purposes, as some contributors used these indicators as a guide to their fast-start finance contributions.⁵⁶

⁵⁰ Jotzo, Pickering, and Wood, "Fulfilling Australia’s international climate finance commitments: Which sources of financing are promising and how much could they raise?", 18, 51; Pickering, Vanderheiden, and Miller, "If equity’s in, we’re out" [Chapter 3].

⁵¹ See for example India, "India's views on elements for decision on long term finance".

⁵² Haites, "International climate finance", 163.

⁵³ European Commission, "Scaling up international climate finance after 2012" (Brussels: 2011).

⁵⁴ Erik Haites and Carol Mwape, "Sources of long-term climate change finance" in *International climate finance*, ed. Erik Haites (London: Routledge, 2013), 163.

⁵⁵ UNFCCC, Article 3.1.

⁵⁶ Pickering et al., "Acting on climate finance pledges".

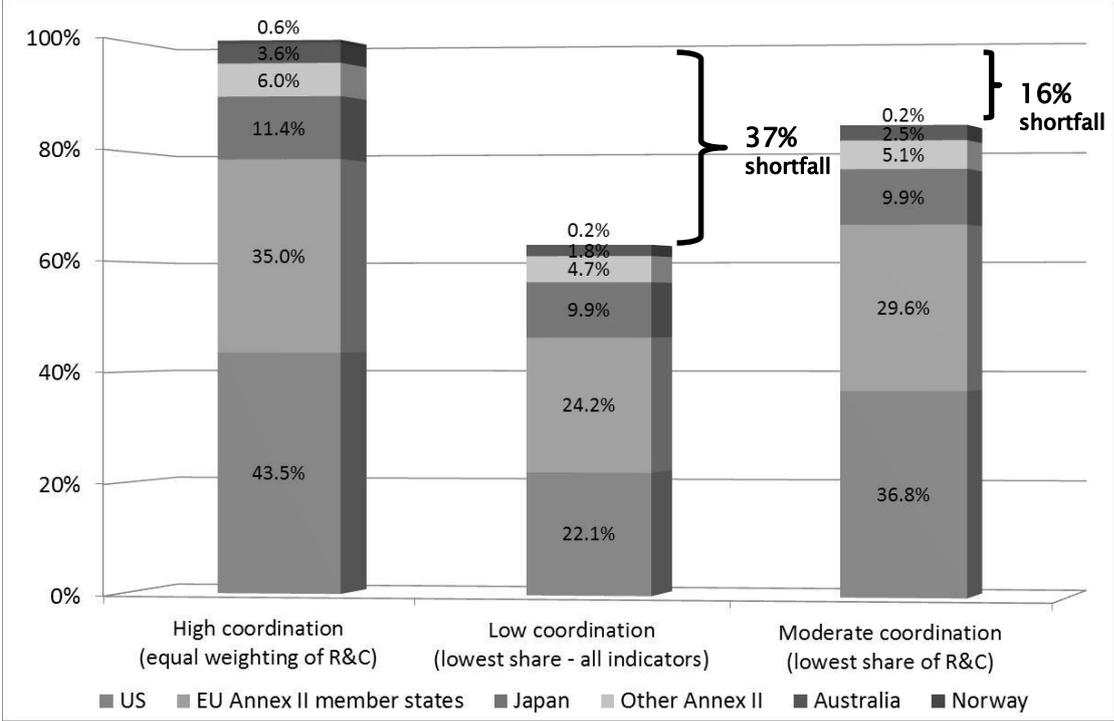
Table 5.2. Illustrative indicators for sharing the climate finance effort⁵⁷

Percentage of Annex II contribution		EU Annex II member states					Other Annex II
		Australia	Japan	Norway	USA		
Responsibility (emissions)	Current (2008-10)	4.7	29.6	9.9	0.2	48.6	7.0
	Cumulative (1990-2010)	4.3	31.7	9.9	0.3	47.4	6.4
Capacity (income)	GDP (2008-10, PPP)	2.5	38.0	12.4	0.7	41.4	5.1
	GDP (2008-10, MER)	2.8	40.5	13.2	1.1	36.8	5.6
Existing pledges	Fast-start finance (2010-12)	1.8	24.2	44.2	2.9	22.1	4.7
	UN Scale of Assessment (2012)	2.5	46.7	15.9	1.1	27.9	5.9

⁵⁷ Emissions data are from UNFCCC, "National inventory submissions 2013" (2013) and include emissions from land use, land use change and forestry (LULUCF); GDP data are from IMF, "World economic outlook 2011" (Washington, DC: International Monetary Fund, 2011) and are reported at purchasing power parity (PPP) and market exchange rates (MER); fast-start finance data are from WRI, "Summary of developed country 'fast-start' finance pledges (November 2012)" (Washington, D.C.: World Resources Institute, 2012); UN Scale of Assessment figures are from United Nations, "Assessment of member states' contributions to the United Nations regular budget for 2012".

In Figure 5.2 we use three hypothetical scenarios to illustrate the impact that uncoordinated choice of indicators on the basis of national self-interest might have. If each country chose the indicator that minimises its own contribution, the sum of pledges would fall considerably short of the aggregate funding required (reaching 63 per cent of aggregate funding in the second column). However, if countries can only choose between measures based on capacity and responsibility (R&C, as in the third column), the sum of pledges only falls by about 16 per cent of the funding required, thus substantially reducing the shortfall. This is because national income and emissions levels are correlated, so the scope for minimising each country's contribution is limited.⁵⁸

Figure 5.2. Comparing degrees of coordination in effort-sharing



⁵⁸ Bassetti, Benos, and Karagiannis, "CO₂ emissions and income dynamics: What does the global evidence tell us?".

Even if adequacy may require a substantially greater degree of coordinated effort-sharing among contributors, it is not clear that input legitimacy also requires that recipient countries have the same degree of involvement in decisions on sharing the financing effort as in mitigation negotiations (which lack an equivalent collective goal for 2020). While the participation of developing countries in effort-sharing decisions could potentially serve to hold individual contributors to account for contributing their fair share, that seems clearly subsidiary to the priority of (i) contributors establishing satisfactory objective criteria amongst themselves to avoid shortfalls; and (ii) recipients holding contributors to account as a group for meeting the overall funding target.

5.5 Harnessing a “wide variety” of funding sources: unilateral and coordinated approaches

As noted above, within the parameters set by the Copenhagen Accord there remains considerable scope for more or less fragmented approaches to mobilising sources of climate finance. In this section we assess whether tighter international coordination is more or less likely to satisfy legitimacy requirements.

5.5.1 Bundling financing sources

Recent research has emphasised the value of evaluating options for mobilisation not purely on the basis of individual sources, but from the perspective of “bundles” or “portfolios” of sources with common characteristics. Mattia Romani and Nicholas Stern distinguish two dimensions along which bundles could differ.⁵⁹ Along one dimension, a bundle could be strongly geared towards international or domestic sources. Along the other dimension, a bundle could be oriented exclusively towards raising funds, or also towards reducing emissions. Table 5.3 illustrates some possible configurations.

⁵⁹ Romani and Stern, "Sources of finance for climate action: Principles and options for implementation mechanisms in this decade", 122.

Table 5.3. Illustrative bundles of funding sources

	Domestic	International
Linked to emissions reductions objectives	Domestic carbon pricing Reducing domestic subsidies or tax concessions for fossil fuels Taxes on emissions-intensive imports (“border measures”)	Auctioning of international emissions entitlements Levies on international offsets Levies on international aviation and shipping
Not linked to emissions reductions objectives	Aid budgets Consolidated revenue	Financial transaction tax

We concur with a range of analysts that a carbon-linked bundle of sources is preferable, as this may yield substantial additional revenue outside aid budgets while also increasing incentives for mitigation in contributing countries (thus advancing the adequacy, efficiency and equity criteria in tandem).⁶⁰ For this reason the degree of fragmentation under a carbon-linked approach to financing is likely to depend on the degree of fragmentation in countries’ overall mitigation efforts. We elaborate upon the resulting implications next.

5.5.2 International coordination on sources linked to mitigation

Achieving output legitimacy in mitigation will require a significant degree of international coordination, for example in order to secure low-cost emissions reductions through international trade in emissions entitlements; reduce carbon “leakage” of emissions-intensive industrial production to countries not covered by emissions reduction policies; and target transnational sources of emissions not yet subject to stringent regulation, notably international aviation and shipping.⁶¹

⁶⁰ AGF, "Report"; Hepburn and Müller, "International air travel and greenhouse gas emissions"; Romani and Stern, "Sources of finance for climate action", 125.

⁶¹ Romani and Stern, "Sources of finance for climate action", 125.

The intensive participation of developing countries will be essential not only for achieving these purposes, but also because cooperative mitigation will produce a range of economic effects on developing countries even if they do not participate directly in mitigation. For example, even if a levy on international transport emissions only covered journeys originating from developed countries, it would still have an impact on prices paid by consumers in developing countries. Unless the design of coordinated mitigation schemes takes such concerns into account, developing countries may block the consensus required to establish them. Ensuring input legitimacy by representing the interests of those most affected will therefore be crucial for securing output legitimacy.

Raising adequate finance from coordinated mitigation will involve further challenges but also important opportunities. On the one hand, the primary motivation for countries to initiate domestic carbon pricing mechanisms or schemes to regulate international transport emissions is typically not to raise climate finance but to enhance mitigation efforts. Even if emissions-linked sources raise a substantial amount of overall revenue, other interests will compete for that revenue. However, this concern may be more pronounced where it takes the form of the “domestic revenue problem” (where taxpayers view funding raised at the domestic level as nationally owned⁶²).

In addition, the fact that coordinated action on mitigation is spread across a number of other multilateral organisations beyond the UNFCCC introduces further complications. The International Civil Aviation Organisation (ICAO) and International Maritime Organisation (IMO) regulate international aviation and shipping emissions respectively, but their mandates constrain their ability to differentiate responsibilities according to a country’s level of development.⁶³ However, the prospects of climate financing arrangements taking root in schemes administered by these organisations are likely to be greater if only a portion of total revenue is directed towards climate finance, with the remainder directed towards other

⁶² Benito Müller, "International adaptation finance: The need for an innovative and strategic approach" (Oxford: Oxford Institute for Energy Studies, 2008), 8.

⁶³ Haites and Mwape, "Sources of long-term climate change finance", 169.

purposes such as assisting affected industries to introduce low-emissions technologies.⁶⁴ At the same time, political acceptability of coordinated mitigation efforts for developing countries could be enhanced by channelling revenue raised via developing countries back to them, either by directly reimbursing the poorest countries to avoid disproportionate burdens upon them, or by enhancing overall levels of climate finance.⁶⁵

A potentially more intractable barrier is that multilateral funding sources may be politically unacceptable to contributors if viewed as a form of global taxation (a particular concern of countries that are especially protective of their fiscal sovereignty such as the United States). One means of addressing the latter concern would be to adopt a more limited degree of coordination whereby revenue for a particular scheme is collected not by a centralised multilateral agency but by national governments, then disbursed as climate finance.⁶⁶

Even if coordinated mitigation efforts could raise substantial finance over the longer term, they may be incapable of generating adequate funding during this decade given existing institutional structures and constellations of interests. A corollary of the inclusive decision-making processes of multilateral organisations is that they are generally slow to reach consensus.⁶⁷ This concern also applies to internationally coordinated sources that are not associated with emissions reductions but whose efficiency will suffer without the participation of major developing economies, such as a financial transaction tax. Thus significant reliance on domestic sources over the short to medium term appears unavoidable.

⁶⁴ Romani and Stern, "Sources of finance for climate action", 131; Haites and Mwape, "Sources of long-term climate change finance", 164.

⁶⁵ Joanne Scott and Lavanya Rajamani, "EU climate change unilateralism", *European Journal of International Law* 23, no. 2 (2012); Haites and Mwape, "Sources of long-term climate change finance", 169.

⁶⁶ See for example Switzerland's carbon tax proposal (Bowen 2011), 1030-31).

⁶⁷ Shaffer and Bodansky, "Transnationalism, unilateralism and international law".

5.5.3 Domestic sources linked to mitigation

As at the international level, the total amount of domestic revenue that carbon pricing arrangements can raise is sensitive to the stringency of developed countries' mitigation targets, which remains low.⁶⁸ Furthermore, many developed countries—such as the United States at the federal level—have found it politically impossible to date to introduce carbon taxes or emissions trading schemes. In the short term, therefore, it may be necessary either to augment aid budgets or draw directly on consolidated revenue to bridge the financing gap.

All of these strategies will face to varying degrees the domestic revenue problem mentioned above. But assuming that contributor countries progressively introduce domestic emissions trading or emissions taxes, and that it is practically and politically feasible for them to earmark some proportion of for climate finance purposes (as Germany has done⁶⁹), need we worry about any concerns of input legitimacy affecting recipient countries?

Here two concerns emerge. First, even though raising revenue from regulating purely domestic emissions may provoke few concerns of political acceptability among developing countries, any attempts to implement border measures—especially raising carbon levies on imported goods or services—are likely to be politically risky (as the EU found in its recent controversial attempt to regulate aviation emissions beyond its borders⁷⁰).

Second, where contributors raise funds unilaterally, they may be strongly inclined to deliver that funding through their own institutions, notably their aid programs. This may not greatly affect output legitimacy if those institutions operate effectively. However, it poses a more significant concern for input legitimacy, as many developing countries see existing channels for delivering aid as favouring contributors' national interests. Ballesteros and colleagues have argued that it is therefore necessary to “de-link” sources of finance from institutions over which

⁶⁸ World Bank, "State and trends of the carbon market 2012" (Washington, DC: World Bank, 2012).

⁶⁹ Stadelmann, Brown, and Hörnlein, "Fast-start finance: Scattered governance, information and programmes", 128.

⁷⁰ Scott and Rajamani, "EU climate change unilateralism".

contributors have greater power.⁷¹ But even if multilateral sources can achieve such a de-linking, the practical difficulties of establishing those sources suggest that a realistic second-best approach would be for contributors to channel a greater proportion of their domestically mobilised resources through multilateral funds.

5.6 Implications for the institutional division of labour

Despite the presumption that contributing countries maintain fiscal sovereignty over how they mobilise resources to meet international commitments, our analysis demonstrates that legitimacy will require a division of labour among unilateral and multilateral institutions as well. Raising innovative sources of finance over the longer term will require coordinated action under the UNFCCC, ICAO, IMO and other organisations such as the G20 (on fossil fuel subsidies) and OECD (which has considerable expertise on accounting for financial transfers to developing countries). But given the difficulties of rapidly introducing multilateral sources, the UNFCCC's primary role on mobilising resources in the short term is likely to be one of "orchestrating" rather than directly engaging in implementation.⁷²

To this end, a key role for the UNFCCC will be to facilitate the development of collective and national pathways, and associated effort-sharing arrangements, towards a bundle of private and public sources that will be capable of fulfilling the commitment. A two-year UNFCCC Work Programme on Long-Term Finance culminated in agreement at the Conference of the Parties in Warsaw in late 2013 that contributors will "prepare biennial submissions on their updated strategies and approaches for scaling up climate finance from 2014 to 2020, including any available information on quantitative and qualitative elements of a pathway".⁷³ While this is a positive development, far more rapid progress and intensive coordination is needed to ensure that the collective effort will be on track to meet

⁷¹ Ballesteros et al., "Power, responsibility, and accountability: Rethinking the legitimacy of institutions for climate finance": 310.

⁷² Kenneth W. Abbott and Duncan Snidal, "International regulation without international government: Improving IO performance through orchestration", *Review of International Organizations* 5, no. 3 (2010).

⁷³ UNFCCC, "Work programme on long-term finance" (2013)

the 2020 commitment. More broadly, there remains hope that reaching an ambitious long-term climate agreement under the current Durban Platform negotiations may stimulate further coordination on mitigation, which in turn could underpin expanded measures to raise funds from international and domestic carbon-linked sources.

Contributor governments, in addition to engaging constructively in multilateral deliberations, should: develop credible national or minilateral accounting standards for climate finance in advance of multilateral agreement; formulate objective estimates of their fair share of the collective commitment; and expand unilateral sources of funding, with an emphasis on emissions-linked sources with minimal impacts on developing countries.

5.7 Conclusion

Our analysis indicates that multilateral coordination on goal-setting and oversight has a vital role to play in ensuring the legitimacy of global climate finance. Yet this may not always imply the same degree of coordination in *implementing* agreed commitments. Our account of mobilising finance indicates that there are good reasons for according contributors substantial discretion over how they raise funding to meet their commitments in recognition of their fiscal sovereignty. The fragmented decision-making arrangements implied by this discretion may retain input legitimacy as long as the choice of funding source does not compromise other fundamental interests of developing countries (such as diverting aid from other development priorities). Given the urgency of rapid climate change mitigation, unilateral action to mobilise funding sources may help to secure output legitimacy in the short term without cutting off options that would require lengthier multilateral deliberation. Nevertheless, national discretion must be tempered by the need for a significant degree of cooperative action among countries. Coordination among contributor countries is necessary in order to counter risks of free-riding in effort-sharing arrangements, while cooperation among both contributors and recipients is necessary to raise funding while simultaneously

stimulating mitigation efforts, and to ensure the representation of developing countries affected by coordinated mitigation and resource mobilisation efforts.

While these findings reinforce the prevailing wisdom among negotiators and policy analysts that a variety of funding sources is essential, they provide a more principled set of justifications for why a moderate degree of fragmentation is necessary for achieving input legitimacy and output legitimacy but an extreme degree of fragmentation is compatible with neither. These findings can inform broader understanding of how fragmentation affects legitimacy in global environmental governance. In particular, our findings suggest that arguments for or against the value of multilateralism as the gold standard for legitimacy must pay closer attention to the ways in which the opportunities and problems that fragmentation creates may vary across policy functions. Our analysis also suggests that empirical path dependencies may arise between fragmentation in one policy function and fragmentation in others. However, there is a need for further systematic comparative analysis to identify how fragmentation affects legitimacy across a broader range of policy functions, issue areas and policy domains.⁷⁴

Finally, the importance of mitigation policies as a vehicle for raising international climate finance highlights that ensuring legitimacy for recipients need not always mean sacrificing legitimacy for contributor countries. Climate change poses threats to the long-term fiscal position for contributors and recipients alike, for example through potential revenue losses from declining productivity of natural resources⁷⁵ and the public costs of dealing with climate change impacts. Coordinated action to avoid such impacts through mitigation could therefore enhance rather than erode contributors' fiscal sovereignty.⁷⁶ Considered in this light, earmarking a portion of the revenue from carbon pricing policies for climate change measures in poorer countries may be a small price to pay for the global benefits it could yield.

⁷⁴ Compare Biermann et al., "The fragmentation of global governance architectures": 18.

⁷⁵ Benjamin Jones, Michael Keen, and Jon Strand, "Fiscal implications of climate change", *International Tax and Public Finance* 20, no. 1 (2013), 30.

⁷⁶ Compare Peggy B. Musgrave, "Combining fiscal sovereignty and coordination: National taxation in a globalizing world" in *The new public finance: Responding to global challenges*, ed. Inge Kaul and Pedro Conceição (New York: Oxford University Press, 2006).

Chapter 6. What should count as aid?

Jonathan Pickering*

Introductory note

The previous chapters have taken climate change as their starting point but have operated against the backdrop of disparities in global development. Chapter 6 changes this emphasis by beginning with a question in development policy—what should count as aid—and employing the case study of climate finance in order to provide a clearer response to that question.

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Abstract

The question of what should and should not count as aid for developing countries has become increasingly prominent in political debates but has received very little attention in normative theory. Drawing on analyses of social practices, I develop an account of aid's moral purposes and an associated set of criteria for evaluating definitions of aid. I apply these criteria to assess the OECD's widely adopted definition of Official Development Assistance. I argue that the current definition—which makes eligibility hinge on the primary developmental objective of the funding—can withstand common criticisms that it measures too little or the wrong things. However, the overall definition of aid needs to be complemented by (i) specified exclusions from aid eligibility for funding that contravenes the spirit, if not the letter, of the development objective and (ii) a broader measure of efforts by developed countries to promote the welfare of poorer countries. Finally, I assess the contentious case of whether funding to address climate change should count as aid. I argue that alternative policy instruments could address concerns about diverting funding from other development priorities to meet climate finance commitments, but exclusion could be considered as a last resort.

6.1 Introduction

Many have argued that wealthy countries and their citizens have moral duties to provide aid to poorer countries.¹ Over several decades wealthy countries have constructed a range of organisations for raising and delivering aid, spanning national development agencies, philanthropic initiatives and multilateral bodies for monitoring and coordinating aid flows. During this time the question of whether aid has been—or indeed can be—effective in promoting economic development has dominated discussion of this topic.² However, there is another important question concerning aid that has become increasingly prominent in recent political debate: what should and should not count as aid? This question is of considerable moral and political importance, since it bears directly on the range of actions that wealthy countries may credit towards their efforts to assist the global poor and in particular towards their progress in meeting global and national aid targets.³

Policy debate over the definition of aid has intensified recently as countries deliberate on what should replace the Millennium Development Goals (MDGs). The MDGs, which are due to expire in 2015, identify a range of priorities and quantified targets for reducing global poverty and securing human development. Aid is widely considered to be an important ingredient for achieving the MDGs,⁴ but some have suggested that the definition of aid should be re-aligned to reflect evolving understandings of development priorities and the broader range of financial and non-financial policy instruments that may promote development.⁵

¹ See generally Singer, *One world: The ethics of globalisation*; Pogge, *World poverty and human rights*.

² See generally Roger C. Riddell, *Does foreign aid really work?* (Oxford: Oxford University Press, 2007); Michael A. Clemens et al., "Counting chickens when they hatch: Timing and the effects of aid on growth", *The Economic Journal* 122, no. 561 (2012).

³ Olav Stokke, *The UN and development: From aid to cooperation* (Bloomington: Indiana University Press, 2009), 512.

⁴ See Thomas G Weiss, "How United Nations ideas change history", *Review of International Studies* 36, no. S1 (2010): 5.

⁵ OECD, "A post-2015 information system for international development and climate finance" *Background research paper submitted to the High Level Panel on the Post-2015 Development Agenda* (Paris: OECD, 2013).

At the same time, perceived fiscal constraints have prompted numerous donor countries—including the Netherlands, Canada, New Zealand and most recently Australia—to realign their aid programs more closely with commercial and foreign policy priorities. In doing so, those countries have brought a broader range of activities under the auspices of their aid programs.⁶ Notable cases currently classed as aid but subject to contention include funding to address climate change, initial costs of resettling refugees in donor countries, tuition costs for overseas citizens studying in donor countries, unsubsidised loans, debt relief and costs incurred by donors in administering their aid programs.

The Organisation for Economic Co-operation and Development (OECD)—whose definition of aid provides the touchstone for what counts as the aid that the governments of wealthy countries provide—has recently begun the process of formulating a more comprehensive set of measures for tracking development finance.⁷ However, despite the increasing salience of this policy discussion, the question of how to define aid has received very little attention in scholarly analysis generally, let alone in moral philosophy. While some philosophers have addressed the question of how aid should be allocated,⁸ I show that questions of eligibility are not reducible to questions of priority.

In what follows I begin by assessing some possible approaches to formulating an institutional definition of aid based on the moral principles or duties underlying the institution or the consequences it promotes. Drawing on analyses of international social practices, I adopt an approach that sets out an account of the moral purposes of the practice of aid and an associated set of criteria for formulating and evaluating a definition of aid. This approach may inform efforts to develop institutional

⁶ Benjamin Day, A new journey on a worn path? The aid cuts in context, *DevPolicy blog*, 7 September 2013, accessed 20 December 2013. <http://devpolicy.org/a-new-journey-on-a-worn-path-the-aid-cuts-in-context-20130907/>.

⁷ OECD, "Initial roadmap for improved DAC measurement and monitoring of external development finance" (Paris: OECD, 2013).

⁸ See for example Jennifer Rubinstein, "Distribution and emergency", *Journal of Political Philosophy* 15, no. 3 (2007); Thomas Pogge, "Moral priorities for international human rights NGOs" in *Ethics in action: The ethical challenges of international human rights nongovernmental organizations*, ed. Daniel A. Bell and Jean-Marc Coicaud (Cambridge: Cambridge University Press, 2007); and Scott Wisor, "How should INGOs allocate resources? ", *Ethics & Global Politics* 5, no. 1 (2012).

definitions for practices that may advance the fulfilment of moral responsibilities of the wealthy towards those beyond their borders, including who should count as a refugee and what should count as human rights.

I apply these criteria to assess the OECD's widely adopted definition of Official Development Assistance. I argue that the current definition—which makes eligibility hinge on the primary developmental objective of the funding—can withstand some common criticisms that it measures too little or measures the wrong things. Rather than jettisoning the concept of official aid we should focus increased attention on (i) expanding the range of specified exclusions from aid eligibility for funding that contravenes the spirit (if not the letter) of the development objective; and (ii) developing a broader measure of the actions that developed countries may take to promote the welfare of poorer countries in a way that complements rather than displaces the definition of aid.

Finally, I assess the specific case for excluding funding to address climate change in developing countries from counting as aid. I consider that the most pressing concern raised by this case is the diversion of funding from existing development priorities in order to meet climate finance commitments. While excluding climate finance altogether from aid could address the risk of diversion, I argue that exclusion carries risks of its own, particularly if it undermines the mutually reinforcing effects of many measures to promote climate change and development and if it fails to motivate increases in overall resources for the poor.

6.2 Defining aid: key concepts

6.2.1 Defining social practices

Aid, like trade and the protection of refugees and human rights, constitutes an international social practice. James defines a social practice as (i) coordinated behaviour among agents over time (ii) that is maintained by widely understood behavioural expectations; and those expectations are (iii) governed and (iv) “set or

adjusted ... according to a shared organizing purpose or aim".⁹ I largely adopt James' definition, except that I will argue that a single social practice may fulfil multiple purposes rather than only a single purpose. We must first distinguish the questions of (i) what counts as a particular social practice; and (ii) what should count as a particular social practice. The first question may be significant for normative theory, since we need to have some idea of the scope of a practice in order to identify how it should be reformed. A significant amount of normative analysis has focused on the first question, particularly among theorists applying constructive accounts of fairness or justice to social practices.¹⁰ However, if we recognise that changing the definition of a practice may help fulfil morally important purposes, we then have good reason to consider the second question as well. We cannot assume that approaches to answering the first question will necessarily be tailored to answering the second.

6.2.2 Moral functions of defining social practices

Let us begin with a brief account of the morally important functions that the definition of a social practice may serve, noting that this is a distinct question from the functions that the practice itself may serve. I focus in particular on definitions of terms that formulate institutional principles or rules (institutional terms). I discuss below how institutional terms relate to terms defined for the purposes of theoretical discussion or public debate (pre-institutional terms).

First, institutional terms perform a conventional function in facilitating shared understandings among participants about the meaning of terms, thereby promoting institutional cooperation.¹¹ Second, some institutional terms perform a normative function by constituting or regulating (encouraging, obligating or prohibiting)

⁹ James, *Fairness in practice: A social contract for a global economy*, 37-38. Compare also David Jason Karp, "The location of international practices: What is human rights practice?", *Review of International Studies* 39, no. 04 (2013): 973.

¹⁰ See for example Charles R. Beitz, *The idea of human rights* (Oxford: Oxford University Press, 2009); James, *Fairness in practice*; and Karp, "The location of international practices".

¹¹ Southwood and Eriksson, "Norms and conventions".

certain types of activity.¹² Institutionalising certain responsibilities may help to overcome problems of moral motivation. As Goodin notes in relation to aid, “Some systematic organization for collectively discharging our duties is necessary in order to relieve us from the burden of attending to all of the needy cases one-by-one”.¹³ Different definitions of a term may in turn enhance or undermine participants’ incentives to fulfil those duties. Third, institutional terms may serve more broadly to express the values of the institution’s participants.¹⁴ This function is particularly prominent where the term is explicitly associated with advancing a moral ideal or value, such as promoting human rights, protecting refugees, or aiding the poor.¹⁵

6.2.3 Introducing the official definition of aid

In order to compare in concrete terms the value of different possible approaches to defining aid, let us begin by outlining the definition of aid adopted by industrialised nations, namely that of Official Development Assistance (ODA). This definition originated in the work of the OECD’s Development Assistance Committee (DAC), which for several decades has provided a forum for aid donors to monitor and set standards for aid provision. In public debate ODA and aid are commonly used interchangeably, and ODA levels represent the pre-eminent measure of how much aid countries provide.¹⁶ The DAC’s definition of ODA, first established in 1969 and periodically modified since that time, sets out four main components:

1. *Agents*: funding provided by governments of OECD donor countries;
2. *Beneficiaries*: funding must be provided to countries on the DAC’s list of developing countries, or to multilateral development institutions;

¹² Compare Joseph Raz, *Practical reason and norms* (Oxford: Oxford University Press, 1999 [1975]), 107-10; J. Garcia, "Constitutive rules", *Philosophia* 17, no. 3 (1987).

¹³ Robert E. Goodin, "Demandingness as a virtue", *The Journal of Ethics* 13, no. 1 (2009): 10.

¹⁴ Cass R. Sunstein, "On the expressive function of law", *University of Pennsylvania Law Review* 144, no. 5 (1996).

¹⁵ On the expressive function of “asylum” see Matthew E. Price, *Rethinking asylum: History, purpose, and limits* (Cambridge, UK: Cambridge University Press, 2009).

¹⁶ Jan Vanheukelom et al., "Reporting on development: ODA and financing for development" (European Centre for Development Policy Management (ECDPM), 2012), 2.

3. *Means*: financial or in-kind support administered on a concessional basis (that is, generally in the form of grants or low-interest loans); and
4. *Interests*: funding must be “administered with the promotion of the economic development and welfare of developing countries as its main objective”.¹⁷

With these preliminaries in place, I will compare two possible approaches to formulating a definition of aid and evaluating the definition presented above: integrity-based and outcome-based approaches.

6.3 Approaches to formulating and evaluating a definition

6.3.1 Integrity-based approaches

6.3.1.1 Conceptual and value integrity

An integrity-based approach, for the purposes of our argument, requires that an institutional term correspond as closely as possible with either (i) the pre-institutional term (conceptual integrity); or (ii) the moral values underlying the institutional or pre-institutional term (value integrity).¹⁸

An approach based on conceptual integrity may vary depending on whether it seeks correspondence with a popular or theoretical definition of a term. In some cases, the two types of definition may come apart,¹⁹ but not greatly, I believe, in the case of aid. In both colloquial and theoretical usage, aid may refer at its most general to “Help, assistance, support, esp[ecially] of a practical nature; succour, relief from difficulty or distress”.²⁰ However it also has the more specific meaning of:

¹⁷ OECD, “Measuring aid: 50 years of DAC statistics - 1961-2011.” (Paris: OECD, 2011), 4, 7.

¹⁸ My understanding of value integrity draws on Bernard Williams’ influential account of integrity. See JJC Smart and Bernard Williams, *Utilitarianism: For and against* (Cambridge: Cambridge University Press, 1973). The two types of integrity bear some resemblance respectively to the “contextual” and “value” methods outlined in Karp, “The location of international practices”: 979-83. Other research has discussed the issue of integrity in relation to non-government aid, but not official aid. See for example George E. Mitchell and Hans Peter Schmitz, “Principled instrumentalism: A theory of transnational NGO behaviour”, *Review of International Studies* (Forthcoming (2013)).

¹⁹ As, for example, in the case of understandings of “compensation”: see Goodin, “Theories of compensation”.

²⁰ *Oxford English Dictionary*, “Aid, n.” (Oxford: Oxford University Press, 2013), Definition 2a.

material help given to a country or region by another country or an international agency; esp[ecially] economic assistance to a poor or underdeveloped country, or supplies of food and medicine given to alleviate the effects of a natural disaster, war, etc.²¹

Ensuring that institutional terms match up with their pre-institutional counterparts may facilitate the conventional function of a definition and avoid obfuscation or misrepresentation. Moreover, conceptual integrity gives due weight to the idea that existing institutions typically serve to advance some kind of pre-existing idea, as for example the idea of human rights.²² It should be apparent that the four components of the OECD definition roughly align with respective elements of the more specific dictionary definition, while providing more determinate content to each.

Nevertheless, in some cases there may be good reasons for institutional definitions to depart from popular usage. First, common-sense understandings may not be a sufficient guide to morally appropriate practice. Thus for example it is common to refer to military aid, but there are good reasons for not counting it as aid for official purposes given its potential to harm rather than advance the interests of the poor if such funding is used to prop up authoritarian governments.²³ For similar reasons, we may think that ideas sometimes treated as human rights in popular debate—such as the right to bear arms—should not be treated as such because of their potential to undermine interests that have a more justifiable status as human rights, such as rights to life and liberty.²⁴

²¹ Ibid., Definition 2b.

²² C. Barry and N. Southwood, "What is special about human rights?", *Ethics and International Affairs* 25, no. 3 (2011): 379-80.

²³ Michael Brzoska, "Extending ODA or creating a new reporting instrument for security-related expenditures for development?", *Development Policy Review* 26, no. 2 (2008): 147.

²⁴ Contrast Christopher J. Schmidt, "An international human right to keep and bear arms", *William & Mary Bill of Rights Journal* 15, no. 3 (2007).

We may go some way towards resolving these difficulties by seeking a more sophisticated form of correspondence between an institutional term and the moral responsibilities or rights associated with it (that is, pursuing value integrity). An approach that strives for value integrity is appealing particularly in relation to institutions that arguably owe their emergence to efforts to institutionalise moral values, including the human rights, refugee and aid regimes. Thus Lumsdaine has argued that the international aid regime represents an example of “moral vision” in international relations grounded in humanitarian concerns for the poor.²⁵ Where certain types of actions are incompatible with the value underlying the practice, we may either (i) modify the overall definition or (ii) retain the overall definition but introduce specific exemptions from aid eligibility (as the DAC has done in the case of military aid and several other cases discussed below).

However, the value integrity approach encounters two difficulties, for it may not adequately take into account (i) the way in which moral principles map onto the functions that social practices perform (the problem of “functional correspondence”) or (ii) the fact of reasonable pluralism about values. I will group functional correspondence and respect for reasonable pluralism under a range of feasibility requirements, and I will introduce two further requirements in the remainder of this section. I address each difficulty in turn.

6.3.1.2 Functional correspondence

Let us assume for the purposes of value integrity that the relevant value is the humanitarian duty to assist those suffering deprivation. A plausible way of assessing whether a particular definition satisfies value integrity would be to assess the consequences of definitional change for fulfilling the particular value in question. I believe this view is on the right track although, as I argue below, I consider it preferable to subsume this perspective on value integrity under a broader consequentialist approach. Before outlining such an approach I highlight a problem that particularly affects the usefulness of straightforward appeals to value integrity

²⁵ David Halloran Lumsdaine, *Moral vision in international politics: The foreign aid regime, 1949-1989* (Princeton, NJ: Princeton University Press, 1993), 3.

to resolve questions of definition, namely the lack of a reliable one-to-one correspondence between duties and institutions.

On the one hand, satisfying a particular duty may require a range of institutional arrangements. Thus humanitarian duties to assist the needy may require not only aid but also reform or creation of other institutions as well, ranging from regimes governing trade, global finance and refugee protection. In discussions of who should count as a refugee, for example, broad definitions based on the moral duty of states to include others whose states are unwilling or unable to protect them²⁶ may overlook the fact that for many people in this situation—including those suffering from famine or natural disaster—asylum may not be the most appropriate response.²⁷ Similarly, protecting the moral equality of individuals may require a range of other institutions other than human rights.²⁸

On the other hand, it is possible that a single institution may be capable of advancing multiple moral values. Institutions are often shaped as much by the means through which they protect interests—such as transfers of economic resources or the provision of asylum—as through the content of the interests themselves. Economic transfers, for example, may serve to assist the poor but may also serve to compensate for harm or advance other moral interests. A simple value integrity approach faces difficulties in taking multiple considerations into account.

6.3.1.3 Reasonable pluralism

A second problem with a simple value integrity approach is that public institutions rely on the political and financial support of a diverse range of citizens, often spanning many countries in the case of international institutions. Thus it may be necessary to invoke a diverse range of moral reasons to ensure that those

²⁶ See for example Michael Dummett, *On immigration and refugees* (London: Routledge, 2001), 37. Shacknove arrives at a similarly broad definition but by invoking what I refer to as a conceptual integrity approach (Andrew E. Shacknove, "Who is a refugee?", *Ethics* 95, no. 2 (1985): 277).

²⁷ Matthew Lister, "Who are refugees?", *Law and Philosophy* 32, no. 5 (2013); More sophisticated integrity-based views take this point into account. See for example Shacknove, "Who is a refugee?": 277.

²⁸ Karp, "The location of international practices": 983.

institutions are publicly justifiable.²⁹ There is little evidence to support the claim—advanced in a somewhat more general form by Lichtenberg—that donors are averse to “duty-talk” when it comes to aid.³⁰ Available evidence from surveys of people’s motivations suggests instead that people support aid not only for prudential reasons but also for a variety of moral reasons, including duties of humanity, charity and justice towards the poor, as well as out of an interest in addressing shared problems such as controlling infectious diseases and reducing conflict.³¹ It would be hard to reach agreement within a single country, let alone among all donors, on a unique right reason for providing aid. Indeed there may be no need to agree that aid should fulfil a single reason or set of reasons in order for aid to give effect to the reasons that people hold in practice. Rather it may be sufficient that the definition of aid reflect what Cass Sunstein calls an “incompletely theorised agreement”.³² The absence of a single guiding value does not make the search for integrity fruitless, but nevertheless does make it more complex, as it points to the need for a definition that is compatible with a range of widely accepted values.

6.3.2 Objective-based approaches

6.3.2.1 Is the wellbeing of the poor the only objective at stake?

An alternative to integrity-based approaches may focus less on duties than on advancing valuable objectives, outcomes or consequences. Such an approach may be better equipped to encompass reasonable pluralism, given that people may agree on the goals of aid if not the duties underlying it. It is, I believe, relatively uncontroversial that the outcomes of greatest (if not exclusive) relevance to aid are benefits to the global poor. This view may be justified on a number of grounds, not

²⁹ John Rawls, *Justice as fairness: A restatement* (Cambridge, MA: Belknap Press of Harvard University Press, 2001), 26.

³⁰ Lichtenberg, "Negative duties, positive duties, and the 'new harms'": 576.

³¹ Riddell, *Does foreign aid really work?*, Chapters 7 and 9; Spencer Henson and Johanna Lindstrom, "“A mile wide and an inch deep”? Understanding public support for aid: The case of the United Kingdom", *World Development* 42, no. 2 (2013).

³² Cass R. Sunstein, "Incompletely theorized agreements", *Harvard Law Review* 108, no. 7 (1995).

least by reference to the large number of poor people worldwide relative to the number of wealthy people and diminishing marginal utility of income.³³

Nevertheless, a straightforward objective-based approach encounters a concern about functional correspondence similar to the one we encountered with the value integrity approach. For example, it may be that recasting component 3 of the OECD definition to include commercial transactions would be beneficial for the poor overall. However, such an approach is likely to raise public concerns about misrepresentation mentioned above in relation to conceptual integrity. We also need to enquire whether the practice of aid may legitimately advance other morally valuable objectives beyond assisting the poor.

In order to address the functional correspondence problem we may formulate a modified version of the objective-based approach that borrows aspects of constructive or practice-dependent theories of justice, notably the idea that an account of an existing social practice may help to characterise in moral terms the overall purposes of that practice.³⁴ The OECD definition provides some evidence for the primacy of the development objective in practice. However, we may also identify two further purposes not captured in the official definition but evident from existing practice.

6.3.2.2 Expressive objectives and co-benefits

First, as noted above, the practice of aid may serve to express the moral reasons that people have for providing it. This expressive objective could conceivably be served if altruistic action enhances the wellbeing of donors, or if the aid relationship provides mutual benefits to donors and recipients beyond the material benefits generated specifically by the aid activity in question. Hattori, drawing on the sociology of gift relationships, argues that aid serves to cement hierarchical

³³ That is, a given amount of money enhances the utility or welfare of a poor person more than that of a wealthy person. See Riddell, *Does foreign aid really work?*, 130.

³⁴ Ronald Dworkin, *Law's empire* (Cambridge, MA: Belknap Press of Harvard University Press, 1986); James, *Fairness in practice: A social contract for a global economy*, pp.29-30. Compare also Karp's "purpose method": Karp, "The location of international practices": 984-86.

relationships between the dominant donor and the subordinate recipient.³⁵ Aid may indeed sometimes serve such a purpose in practice. However, a shift in the rhetoric of aid over the past decade toward notions of partnership, national ownership and mutual accountability provides evidence of an emergent shared intention to place aid on a less hierarchical basis.³⁶

Even if our primary concern is how the definition of aid affects overall outcomes, we may have instrumental reasons for caring about expressive objectives (and more broadly about integrity) because satisfying those objectives may motivate donors to provide more aid.³⁷ The instrumental value of integrity may also explain why even if a particular type of funding (such as military aid) might benefit the poor in some circumstances, even a moderate risk that its misuse could harm the poor in others could undermine public support for the aid regime and thereby provide a strong reason for the exclusion of that type of funding.³⁸

The second insight from existing practice concerns the fact that a considerable proportion of aid is oriented towards securing benefits for donors, such as expanding export markets or gaining diplomatic support. While evidence on the role of these motivations in overall aid-giving is mixed, there is enough to show that aid is not overwhelmingly oriented towards the exclusive interests of either donors or recipients.³⁹ Should we consider material benefit to donors to be a legitimate purpose of aid at all? If we value the welfare of all people equally—even if we value increases in the welfare of the poor more highly than that of the wealthy—this purpose need not be dismissed out of hand, as long as we recognise its subsidiary importance. I will refer to this as the “donor co-benefit” objective.

³⁵ Tomohisa Hattori, "Reconceptualizing foreign aid", *Review of International Political Economy* 8, no. 4 (2001).

³⁶ See for example OECD, "Paris declaration and Accra agenda for action" (Paris: OECD, 2008).

³⁷ Compare Sunstein's idea that the expressive function of law may have instrumental value through its role in changing social norms (Sunstein, "On the expressive function of law").

³⁸ Here it may be useful to distinguish between standard risks of failure in implementation (which apply to any aid activity) and the risk that funding could be used to deliberately harm others (as in the case of military aid, and possibly nuclear energy, whose peaceful use is currently counted as aid).

³⁹ Simon Feeny and Mark McGillivray, "What determines bilateral aid allocations? Evidence from time series data", *Review of Development Economics* 12, no. 3 (2008).

6.3.2.3 Empirical uncertainty and the problem of stability

An important challenge to the view that we should rely on consequences as the yardstick for determining what should count as aid is that it may be very difficult to tell what sorts of effects any one of the many possible variations in definition could have in practice. This problem has two dimensions. First, the actions that will yield the greatest benefits for the poor may vary considerably over time as some countries develop while others become poorer, and (as I discuss below) as new development needs arise. Moreover, we have limited knowledge about what kinds of aid interventions work and what do not.

Second, in evaluating the consequences of different definitions we need to distinguish the ways in which a *definition* of aid may benefit the poor from the broader ways in which the *practice* of aid may benefit the poor regardless of how the practice is defined. As I will argue, different definitions may enhance or undermine donors' incentives to maximise benefits for the poor by affecting either the quantity of aid or its quality (that is, the extent of the benefits yielded by a given quantity of aid). However, those incentive effects will depend on a broader range of existing institutional incentives affecting donors' relations with other countries. Thus, for example, tightening the definition of aid to focus greater attention on the poorest populations may improve the quality of aid. But it may be unclear whether and how it would affect its overall quantity. Relaxing or tightening the definition of aid makes it respectively easier or harder for donors to meet aid targets, such as the UN aid target, according to which donors undertook in 1970 to "exert [their] best efforts" to provide 0.7 percent of their Gross National Income (GNI) as aid.⁴⁰ While expanding the definition could help boost overall aid, it may simply allow donors to count towards their targets a wider range of resource transfers that they would have provided anyway while keeping the overall quantity of aid the same (to the detriment of aid quality).

Despite this, whether or not we adopt an integrity-based or objective-based approach, we will need to appeal to available evidence of likely consequences to

⁴⁰ United Nations, "International development strategy for the second United Nations development decade" (1970), Paragraph 43.

some extent, even if we do so provisionally in order to identify requirements for further empirical research. I refer to this as the feasibility requirement of a robust evidentiary basis. Subsequent sections set out available evidence in greater detail. Empirical uncertainties about the effects of definitional change also underscore the idea that if a definition of aid is to function as a reliable guide for practice it needs to be flexible enough to withstand short-term fluctuations in circumstances. Since the adoption of definitional alteration will require consensus among a range of countries, it is likely to be a time-consuming process that must only take account of long-term trends.⁴¹ I refer to this as the feasibility requirement of stability.⁴² I also take the requirement of stability to involve the idea that a definition of aid should be capable of reliable application to specific cases on the basis of externally observable features of the resource transfer in question.⁴³

6.3.3 Summary

Let us now synthesise main features of the criteria I have set out so far. The modified objective-based approach I have proposed focuses primarily on ensuring that a definition of aid advances the development objective, but a definition may also serve two secondary objectives, the expressive and donor co-benefit objectives. Although I do not adopt conceptual or value integrity as free-standing criteria, I incorporate them via their role in fulfilling the expressive objective, and through the fact that advancing the development objective may concurrently advance value integrity. In addition to these objectives I have outlined a range of further desiderata, which I group together under the rough heading of feasibility requirements. The objectives and feasibility requirements are outlined in Table 6.1 below.

⁴¹ For present purposes I leave aside the question of the deliberative processes by which definitional change should occur. However, given that developing countries will be affected by definitional change, deliberations should provide for their meaningful involvement in addition to the involvement of the OECD DAC membership (which is comprised of donor countries).

⁴² Compare Rawls, *A theory of justice*, 154.

⁴³ Compare H.L.A. Hart, *The concept of law*, 3rd ed. (Oxford: Oxford University Press, 2012 [1961]), 124.

Table 6.1. Criteria for evaluating a definition of aid

Advancing valuable objectives	Feasibility requirements
<div style="text-align: center; border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>1. Development objective</p> <p>Promoting wellbeing of the poor by motivating increases in (i) aid quantity and (ii) aid quality</p> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p>2a. Expressive objective</p> <p>Fulfilled through satisfying</p> <p>(i) objectives 1, 2b and</p> <p>(ii) conceptual/ value integrity</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p>2b. Donor co-benefit objective</p> <p>Fulfilled through material benefits to donors that are compatible with or reinforce other</p> </div> </div>	<ul style="list-style-type: none"> • Functional correspondence • Respect for reasonable pluralism • Robust evidentiary basis • Stability

Note: arrows show the directions in which one objective may influence another.

6.4 Evaluating the official definition of aid

Now that we have established an approach to evaluation, let us turn to the more specific question of whether the current definition of ODA satisfies the criteria I have laid out. Space precludes a detailed discussion of all the criticisms that the different components of the ODA definition have attracted. I focus primarily on whether the fourth component—containing the primary objective of aid—should be amended, or whether specific exceptions should be introduced, the better to advance the objectives outlined above. I will have somewhat less to say about controversies attaching to the other components, including whether aid should include funding provided by non-government organisations and “emerging” official

donors such as China and India (component 1),⁴⁴ whether the list of recipients could be recast in order to strengthen the development objective (component 2), or how to measure “concessionality” (component 3).⁴⁵ I will structure the evaluation around three common criticisms of the overall definition, which Severino and Ray refer to as “ODA’s three fatal sins”: that it measures too little; measures too much; and measures the wrong things.⁴⁶

6.4.1 Measuring too little?

An initial concern is that the OECD definition captures too little of the range of factors that may benefit poor countries and is therefore inconsistent with the development objective. Inconsistency could arise for several reasons. First, the definition excludes “innovative” sources of development funding that do not necessarily comprise funding transfers (such as loan guarantees) or are non-concessional in nature (such as bond financing). Second, by focusing on economic development, the definition excludes other flows that may advance non-economic interests (such as cultural interests), including those that may be a precondition for successful development (such as peacekeeping).

6.4.1.1 Other factors affecting development

The first criticism highlights the observation that the welfare of developing countries depends on a much wider range of financial resources than official aid flows from wealthy to poor countries. Indeed aid is now dwarfed by a range of other flows, including trade and investment flows and remittances transferred from

⁴⁴ See Deborah Bräutigam, “Aid ‘with chinese characteristics’: Chinese foreign aid and development finance meet the OECD-DAC aid regime”, *Journal of International Development* 23, no. 5 (2011); see also Ngaire Woods, “Whose aid? Whose influence? China, emerging donors and the silent revolution in development assistance”, *International Affairs* 84, no. 6 (2008); Soyeun Kim and Simon Lightfoot, “Does ‘DAC-ability’ really matter? The emergence of non-DAC donors”, *Journal of International Development* 23, no. 5 (2011).

⁴⁵ For more detailed discussion of these issues see Vanheukelom et al., “Reporting on development: ODA and financing for development”.

⁴⁶ Jean-Michel Severino and Olivier Ray, “The end of ODA: Death and rebirth of a global public policy” *Working Paper Number 167* (Washington, D.C.: Center for Global Development, 2009), 17-20.

migrants living in developed countries to their countries of origin.⁴⁷ Moreover, there is increasing awareness among policy-makers of ways in which the policies of a wealthy country may benefit or harm developing countries through means other than financial flows, including policies on migration, security and environmental protection. Accordingly, a variety of proposals have emerged for tracking a wider range of financial flows that benefit developing countries such as “Official Development Support”, “External Development Finance” or “Global Policy Finance”.⁴⁸ Others have formulated a broader measure of wealthy countries’ “commitment to development” that captures both financial and non-financial impacts.⁴⁹

Broader measures of this kind may be an important part of the overall picture of global actions that affect development. However, reasons of institutional feasibility and integrity suggest that there is merit in retaining a definition of aid that is limited to cross-border transfers of concessional resources from wealthier to poor countries. For even if non-concessional flows are much larger than concessional flows, the latter remain essential for addressing a number of purposes that would not otherwise attract sufficient funding from commercial or philanthropic sources, including aid for humanitarian emergencies and for fostering basic state institutions.⁵⁰

6.4.1.2 Scope of benefits

Whether aid should encompass a broader understanding of development has been a prominent concern, particularly as the DAC has introduced a specific exemption that makes peacekeeping expenditure ineligible to be counted as aid.⁵¹ As Michael

⁴⁷ Andy Sumner and Michael Tribe, "The case for aid in fiscally constrained times: Morals, ethics and economics", *Journal of International Development* 23, no. 6 (2011): 783.

⁴⁸ The OECD intends to develop new measures of the first two categories: OECD, "Initial roadmap for improved DAC measurement and monitoring of external development finance"; on the third category see Severino and Ray, "The end of ODA".

⁴⁹ Center for Global Development, Commitment to development index 2013, accessed 20 December 2013. <http://www.cgdev.org/initiative/commitment-development-index/index>.

⁵⁰ Sumner and Tribe, "The case for aid in fiscally constrained times: Morals, ethics and economics": 788, 89.

⁵¹ Brzoska, "Extending ODA?".

Brzoska argues, even if peacekeeping may be a precondition for development, public debate tends to consider promoting security and development as two distinct spheres, and it is difficult to draw a reliable line between aspects of security-related funding that promote development and those that are indifferent to or threaten development prospects.⁵² The risk that over-inclusion poses in this context for the integrity of the aid regime suggests that a broader category of exclusion for security-related expenditure is preferable.

6.4.2 *Measuring the wrong things?*

A second criticism is that by tracking funding based on the amount of funding that donors spend towards the development objective the definition fails to capture the amount of funding that actually flows to developing countries or the development benefits flowing from that funding.⁵³ As a result, it is argued, the current definition fails to give donors sufficient incentives to ensure that their funding is not only well-intentioned but also effective.

While there is little doubt that the delivery of international aid could be more effective than at present, it is not clear that changing the overall definition to count as aid only funding that actually benefits developing countries would be a viable way of promoting effectiveness. If nothing else, an outcome-based definition may not be compatible with the requirement of stability given difficulties in assessing the effectiveness of individual aid projects. In particular, such a definition could give donors an incentive to gain credit for short-term development benefits at the expense of harder to measure but more important long-term benefits.

Nevertheless, even if the overall definition of aid is based on the objective of funding rather than its actual outcome, certain types of funding could be the subject of specified exclusions if there is little or no evidence that they reliably promote development outcomes. Where evidence on development outcomes is mixed, it may be better to count funding that has a developmental objective as aid (while maintaining a distinction between good and bad aid) while encouraging

⁵² Ibid., 146-47.

⁵³ Severino and Ray, "The end of ODA", 20-21.

donors to improve their compliance with agreed principles and standards for development effectiveness.⁵⁴

6.4.3 *Measuring too much?*

A contrasting criticism is that the definition of aid includes too many types of funding that should not be classed as aid. I address two variants of this criticism. First, stipulating that the welfare of developing countries should be the primary but not exclusive objective gives donors too much discretion to target aid towards activities that benefit themselves at the expense of recipients. Second, the objective as formulated is so broad that it allows to too great an extent funding that may be compatible with the letter of the development objective but not with its spirit.⁵⁵

The exclusivity criticism could appeal to the idea that people are more likely to donate funds if their intrinsic or altruistic motivations for doing so are not mixed with self-interested motivations such as receiving material incentives to donate.⁵⁶

Appealing to material incentives could thus “crowd out” or “eclipse” virtuous action.⁵⁷ However, even where individual aid donations are concerned, there appears to be little discomfort among donors or charitable organisations with providing material incentives by making charitable donations tax-deductible. In any case, for the reasons discussed above, requiring that aid aim exclusively rather than only primarily to benefit the poor would be to hold governments to an impossible standard. Moreover, doing so could dampen overall motivations of the public for maintaining generous aid budgets, since it would constrain governments from

⁵⁴ There may nevertheless be value in complementary measures that specify the amount of funding that reaches developing countries, as the OECD has sought to capture in a concept of “Country Programmable Aid” introduced in 2005: OECD, “New directions in DAC measurement and monitoring of external development finance” (Paris: OECD, 2012), 6.

⁵⁵ A related criticism (not discussed here) relates less to the formulation of the definition than to the process of applying it: because donors self-report on what they count as aid, the process arguably gives donors too much leeway to include funding that should not be counted as aid; aid eligibility decisions should therefore be subject to more rigorous external scrutiny.

⁵⁶ Richard Titmuss, *The gift relationship: From human blood to social policy* (London: Allen and Unwin, 1970); Robert E. Goodin, *Political theory and public policy* (Chicago: University of Chicago Press, 1982), 113.

⁵⁷ Bruno S. Frey, “A constitution for knaves crowds out civic virtues”, *The Economic Journal* 107, no. 443 (1997); Geoffrey Brennan and Philip Pettit, *The economy of esteem: An essay on civil and political society* (Oxford: Oxford University Press, 2004), 302.

appealing to alternative arguments such as mutual benefit that may convince some undecided voters.⁵⁸

A greater challenge to the current definition arises where the exclusivity criticism collapses into the criticism regarding the spirit of the development objective. That is, there may be cases where a government claims that its self-interested reasons for providing aid are a secondary objective when in fact they constitute the government's primary objective. This concern underlies many criticisms of cases of funding that are currently classed as aid, including scholarships for citizens of developing countries to study in donor countries (where the donor's tertiary education institutions benefit regardless of whether the student returns to their home country) or unsubsidised lending (where donors with low borrowing costs can still make a profit from concessional loans). As we will see in the next section, this concern also arises in the case of aid for climate change mitigation.

I believe there is a valid concern that the current breadth of the definition allows donors to count funding that lacks an appropriate balance of benefits for recipients relative to donors. Measuring too much may often be the price to pay for maintaining the stability of the definition. However, addressing excessive breadth may not necessarily require changing the overall definition, but rather introducing specified exclusions from aid for particularly undeserving classes of funding. Over the years the DAC has introduced a range of exclusions from aid eligibility aimed at certain types of self-interested funding, including counter-terrorism assistance and funding for carbon offsets generated in developing countries that are used to meet developed countries' climate change commitments.⁵⁹ Where other categories of funding systematically work to the primary benefit of donor countries—as unsubsidised lending most clearly does among the examples just mentioned—we may justify their exclusion on the basis that doing so reinforces the stated developmental objective of aid and thereby the value integrity of the aid regime.⁶⁰

⁵⁸ Compare Riddell, *Does foreign aid really work?*, 113.

⁵⁹ OECD, "Is it ODA?".

⁶⁰ A similar justification could apply to excluding funding that ostensibly promotes development but is essentially a bribe aimed at securing votes in an international organisation for a donor's position.

There is another way in which the current definition could allow donors to count funding that should not be classed as aid even if the funding does not primarily benefit them. I have in mind a kind of case whose primary objective may be interpreted as promoting the welfare of people in developing countries, but which simultaneously serves different other-regarding (rather than self-interested) aims. One variant of this idea is that humanitarian assistance should be excluded from aid in order to enable aid to focus on longer-term development challenges.⁶¹ I find the latter argument unconvincing. While humanitarian and long-term assistance differ in numerous respects, the two lie on a continuum.⁶² In addition, excluding humanitarian assistance from aid would run against what many consider to be a paradigm example of aid. In the next section I address the case for excluding funding from aid that fulfils two different kinds of other-regarding obligations, namely remedying harm and complying with legal obligations.

6.5 Making exceptions: should climate finance count as aid?

So far we have applied our criteria to the overall definition of aid. In addition, we may use the same criteria *mutatis mutandis* for evaluating whether specific instances of aid should be included or excluded from the definition. Thus when we consider contentious cases classed as aid we may ask whether exempting them from aid eligibility would advance valuable outcomes and whether it would be institutionally feasible to exempt them.

6.5.1 Climate finance and the problem of diversion

Whether funding to address climate change in developing countries should be classed as aid has been a longstanding bone of contention since the drafting of the United Nations Framework Convention on Climate Change (UNFCCC; or the climate convention), which was adopted in 1992. Under the climate convention, wealthy countries pledged to “provide such financial resources, including for the transfer of

See Natalie J Lockwood, "International vote buying", *Harvard International Law Journal* 54, no. 1 (2013). However, efforts to exclude such cases from aid may pose a number of practical difficulties.

⁶¹ As reported in Vanheukelom et al., "Reporting on development", 30.

⁶² Rubinstein, "Distribution and emergency".

technology, needed by the developing country Parties to meet the agreed full incremental costs” of implementing a range of measures to mitigate climate change (i.e. reducing greenhouse gas emissions) as well as pledging to assist them in meeting the costs of adaptation (i.e. adjusting to the impacts of climate change).⁶³ However, they did not agree on a specific level of overall funding, and for some years wealthy countries provided quite modest amounts of climate finance.

More recently the debate over the relationship between climate finance and aid has intensified following a landmark political bargain struck between developed and developing countries under the 2009 Copenhagen Accord. In tandem with developing countries pledging to increase their mitigation efforts, wealthy countries committed to scale up their climate finance substantially by providing funding approaching US\$30 billion over 2010-12 and mobilising \$100 billion a year by 2020 from a range of sources.⁶⁴ Most fast-start finance was drawn from contributing countries’ aid budgets, and aid supporting climate change objectives represented around 16 percent of total aid in 2010-11.⁶⁵ The long-term target is substantial compared to current official aid, which reached US\$134 billion in 2011.⁶⁶

Developing countries have consistently argued that climate change finance should be “new and additional” to existing aid.⁶⁷ The primary basis for this concern is that if developed countries were to continue to draw on aid budgets to meet their rising climate finance commitments, this would divert a substantial amount of funding that would otherwise flow to existing development priorities. Developed countries have instead preferred an interpretation of additionality that enables them to draw climate finance from aid budgets, provided that levels of climate finance are additional to some baseline, such as previous climate finance or existing aid levels.⁶⁸

⁶³ UNFCCC, Articles 4.3, 4.4.

⁶⁴ UNFCCC, "Copenhagen Accord", Paragraph 8.

⁶⁵ OECD, "DAC statistics: Climate-related aid" (Paris: OECD, 2012).

⁶⁶ OECD, "Statistics".

⁶⁷ This term features in the convention itself as well as in successive political decisions agreed under the convention (UNFCCC, Article 4.3; UNFCCC, "Copenhagen Accord", Paragraph 8).

⁶⁸ Stadelmann, Roberts, and Michaelowa, "New and additional to what?".

The problem of diversion has two aspects. The first is that when new needs emerge donors may not increase their overall aid but will seek instead to meet new needs by spending less on existing needs. The second aspect is that, whether or not the pool of funding grows or remains fixed when new needs arise, addressing new needs may involve targeting funding to less deserving recipients, thus diminishing the overall quality of aid. I discuss each aspect in turn.

6.5.1.1 Emerging needs and the quantity of aid

One argument for excluding substantial new types of funding needs from aid is that it may help to ensure that the definition corresponds with the range of needs that were envisaged when the UN aid target was set.⁶⁹ There is widespread recognition that emerging needs in one area (e.g. control of diseases such as AIDS) may be offset by a decline in other needs (for example, as large economies such as China and India have grown).⁷⁰ One could argue that the case for counting AIDS funding as aid is stronger because it falls within an existing class of needs (promoting health), whereas climate change represents a new class of need. However, the declaration setting out the UN's aid target acknowledged the role of safeguarding the environment in achieving the "ultimate purpose of development", and one could respond that climate change is to the environment as AIDS is to health.⁷¹ The key issue of concern therefore appears to be not so much the type of need but rather its magnitude compared to existing levels of need. The scale of climate change funding required in developing countries is indeed far greater than that required to address AIDS.⁷² However, this fact alone does not entail that redefinition is the only

⁶⁹ Note that the relationship of the existing target with funding needs has been the subject of considerable criticism: see Michael A. Clemens and Todd J. Moss, "The ghost of 0.7 per cent: Origins and relevance of the international aid target", *International Journal of Development Issues* 6, no. 1 (2007).

⁷⁰ Compare Homi Kharas and Andrew Rogerson, "Horizon 2025: Creative destruction in the aid industry" (London: Overseas Development Institute, 2012).

⁷¹ United Nations. 1970. International Development Strategy for the Second United Nations Development Decade. United Nations General Assembly Resolution 2626 (XXV), 24 October 1970, Paragraph 18.

⁷² The UN estimates that addressing AIDS in developing countries will require around US\$20 billion a year over 2014-16 (Global Fund, "Fourth replenishment (2014-2016): Needs assessment" (Global Fund to Fight AIDS, Tuberculosis and Malaria, 2013)). Climate finance flows to developing countries (including UNFCCC pledges) totalled around \$39-62 billion a year in 2010-11, and funding needs are

solution. Excluding funding for new needs from aid also poses significant risks, because if donors cannot claim credit for boosting funding to tackle new problems, they may have fewer incentives to address those problems.

6.5.1.2 Safeguarding the quality of aid allocation: debate over global public goods

A second concern about diversion is that climate finance systematically distorts the allocation of funding away from recipients whose development needs should have greater priority. We have already seen one form of distortion that could justify exclusion from aid, namely funding that primarily benefits donor countries. A second form of distortion involves diversion of funding from poorer to less poor recipient countries. Climate finance could potentially involve both forms of distortion, and it shares this feature with a broader class of contentious cases involving funding to address global public goods.⁷³

The case against counting support for global public goods as aid is often based on the view that such funding cannot primarily benefit developing countries. However, while some global public goods may primarily benefit donors (e.g. reducing security threats from terrorist attacks aimed at wealthy countries and their citizens abroad), others may in fact primarily benefit recipients. Addressing global climate change is a good example of the latter. Action to mitigate climate change produces worldwide benefits, since all countries share a common climate system. However, poorer countries may benefit to a greater extent from mitigation initiatives undertaken in their own countries because (i) they are typically more vulnerable to the impacts of climate change than wealthy countries, and (ii) mitigation activities often bring local development co-benefits such as employment and reduced air pollution in cities.⁷⁴

expected to grow considerably over coming years (Buchner et al., "The global landscape of climate finance 2013", i).

⁷³ That is, goods (i) that provide benefits that "no country can be prevented from enjoying" and (ii) where "no country's enjoyment of the good [can] impinge on the consumption opportunities of other countries": see Barrett, *Why cooperate?*, 1.

⁷⁴ World Bank, "Turn down the heat", xiii; Michael Finus and Dirk T G. Rübelke, "Public good provision and ancillary benefits: The case of climate agreements", *Environmental and Resource Economics* 56, no. 2 (2013).

Moreover, a safe climate is widely considered to be a precondition for development.⁷⁵

A more pressing concern is that using aid to mitigate climate change and deliver other global public goods may divert funding from poorer to less poor recipients. This is a particular concern in relation to mitigation. Mitigation opportunities are generally greatest in populous and rapidly industrialising countries such as India and China.⁷⁶ While both are still home to a large proportion of the world's poor, mitigation funding is not generally targeted towards the poorest in those countries. While the current geographical allocation of climate finance to date has diverged significantly from the overall allocation of aid, there is a risk that as mitigation finance increases it will be more likely to divert aid funding away from the poorest countries, which have fewer opportunities for large-scale mitigation.⁷⁷

By contrast, adaptation funding may be more likely to be targeted towards the poorest given the abovementioned correlation between poverty and vulnerability to climate change.⁷⁸ Moreover, there are strong continuities between measures that promote development and those that strengthen resilience to climate change, so much so that Nicholas Stern has described adaptation as "development in a more hostile climate".⁷⁹ Accordingly, there are considerable practical difficulties in distinguishing many aid activities that have climate adaptation co-benefits (such as disaster risk reduction measures) from activities that primarily address adaptation.

Should mitigation finance be excluded from aid on account of its potential to distort funding priorities? One problem with doing so is that the broader issue of how donors should best allocate overall aid remains unresolved. International declarations on aid have increasingly focused on placing poverty reduction (rather than merely economic development writ large) and the targeting of aid towards the

⁷⁵ World Bank, "Development and climate change".

⁷⁶ Axel Michaelowa and Katharina Michaelowa, "Climate or development: Is ODA diverted from its original purpose?", *Climatic change* 84, no. 1 (2007).

⁷⁷ Smita Nakhooda et al., "Mobilising international climate finance: Lessons from the fast-start finance period" (Open Climate Network, 2013), 41-42.

⁷⁸ *Ibid.*, 42.

⁷⁹ Stern, *A blueprint for a safer planet*, 68.

poor at the heart of development cooperation.⁸⁰ However, beyond this there remains little agreement—whether among policy-makers or theorists—about whether aid would be more beneficial overall if it were focused more directly on the poorest countries or aimed to benefit the largest number of people, which may involve directing aid to less poor but better governed countries.⁸¹

Rather than making an ad hoc exclusion for mitigation finance in order to improve the targeting of aid towards the poor, it would be preferable to ensure that the list of aid recipient countries is aligned with widely accepted understandings of poverty.⁸² Donors could also strengthen their resolve to ensure that the poorest countries are not under-funded. Within those parameters, the definition should continue to allow for some flexibility in how aid is targeted.

6.5.2 Filtering out incompatible objectives

A further objection to counting climate finance as aid involves the idea that climate finance is accompanied by objectives or motivations that make it incompatible with the spirit (if not the letter) of the development objective, and that its inclusion undermines the integrity of aid. I address two potentially incompatible objectives: legal obligations and responsibilities to remedy harm.

6.5.2.1 Legal obligations

In a submission to the UNFCCC negotiations, India sets out an argument commonly voiced by developing countries in relation to climate finance:

[...] unlike in the case of “development finance”, there is clear legal recognition in the UNFCCC of the “*common but differentiated responsibilities and respective capabilities*” of Parties for addressing climate change. Accordingly, the provision of financial

⁸⁰ Rainer Thiele, Peter Nunnenkamp, and Axel Dreher, "Do donors target aid in line with the Millennium Development Goals? A sector perspective of aid allocation", *Review of World Economics* 143, no. 4 (2007).

⁸¹ Craig Burnside and David Dollar, "Aid, policies, and growth", *American Economic Review* 90, no. 4 (2000); also '(see n.8 above)'.

⁸² The question of how to measure poverty is admittedly not without controversy: Sanjay G. Reddy and Thomas Pogge, "How not to count the poor" *Initiative for Policy Dialogue Working Paper Series, May 2009* (New York: Columbia University, 2009).

resources for climate change must relate explicitly to this legal principle in any future climate change arrangements [...]. The providers of finance cannot be discretionary “donors”, but must be legally obligated “assesseees”.⁸³

We have already seen that wealthy countries do have a legal obligation to provide climate finance. Moreover, with few exceptions the aid regime is not underpinned by obligations of international law but rather by non-binding political declarations that lack enforcement provisions.⁸⁴ But how might we justify the normative claim that funding subject to legal obligations should not count as aid?

One argument would appeal to the idea that legal obligations and aid targets give donors two different types of incentives to increase their overall funding for developing countries. It is therefore preferable to separate climate finance from aid so that the motivational role of aid targets can serve to raise funding for purposes that are not covered by legal obligations, thus increasing the overall amount of funding available to the poor. In response it is important to note that legal obligations may vary in their stringency. Even though climate finance is owed as a matter of legal obligation, there are no agreed indicators of non-compliance or any penalties for countries that do not comply. For this reason the incentive effects of weaker forms of legal obligation are likely to be modest at best. Nor should we dismiss the positive incentive effects that aid eligibility could provide in such cases, particularly as some countries may otherwise exploit the idea that climate finance should not count as aid in order to backtrack on rather than bolster their climate finance commitments.⁸⁵

⁸³ India, "Supplemental submission by India: Why financial contributions to the financial mechanism of the UNFCCC cannot be under the paradigm of 'aid'" (Bonn: UNFCCC, 2009), 41.

⁸⁴ One exception is UN, "Food Assistance Convention" (2013).

⁸⁵ Australia's recently elected conservative foreign minister, for example, has argued that "Climate change funding should not be disguised as foreign aid funding" but also declined to support UN climate funds (Lenore Taylor, Cabinet rethinks Australia's backing of global green climate fund, 18 November 2013, accessed 20 December 2013. <http://www.theguardian.com/environment/2013/nov/08/australian-ministers-rethink-green-climate-fund-commitment>).

A second argument is that, since aid is associated with voluntary or charitable obligations, it is inappropriate to count funding that is required by reasons of greater legal or moral stringency, even if those reasons are morally permissible or laudable *per se*. Legalising the aid regime would tend to eclipse virtue by diminishing the esteem that donors could obtain from donating funds, thereby also damaging the integrity and expressive objectives of aid. In response we might observe that the institution of official aid has persisted despite—or indeed possibly because of—the fact that almost all donor countries impose an extrinsic legal motivation on aid provision, namely the obligation to support aid through individual income taxes. Moreover, seeking to maintain a complete separation of aid from legal obligation could undermine the possibility that legal obligations could be used to stabilise and reinforce commitments to provide aid, as the Food Assistance Convention aims to do. Nevertheless, as I discuss next, it is possible that some types of legal obligation could be incompatible with the spirit of the development objective when combined with other factors.

6.5.2.2 Responsibilities to remedy harm

In debates about climate finance the idea of legal obligation as a distinguishing feature frequently blends into another factor that may warrant its separation from aid, namely that it is associated with obligations to prevent or remedy harm. Developing countries have argued that adaptation finance should not be considered as aid because it amounts to “compensation” or “restitution” for harm caused by the greenhouse gas emissions of wealthy countries.⁸⁶ More broadly, Thomas Pogge has questioned whether we should talk primarily about “assisting” the global poor when in fact we should be talking about avoiding and remedying the harm that we are doing to them.⁸⁷

Where harm-based and legal obligations converge in a single case, concerns of integrity and the wellbeing of the poor may provide strong reasons for excluding it

⁸⁶ World Bank, “Development and climate change”, 277; Vanheukelom et al., “Reporting on development”, 26.

⁸⁷ Thomas Pogge, “Assisting” the global poor” in *The ethics of assistance: Morality and the distant needy*, ed. Deen K Chatterjee (Cambridge, UK: Cambridge University Press, 2004).

from aid eligibility. Think, for example, of a situation where a wealthy country is ordered by an international court to compensate a poor country for damage it has caused by polluting the latter's rivers. It would be callous, I believe, to classify such a transfer as aid, since the main reason for the transfer is not so much to promote the country's welfare but to right a wrong. In particular, it constitutes a payment that would not have been made in the absence of the wealthy country's role in the harm and, moreover, one that the country would have been required to make even in the absence of aid eligibility. Even if the existence of a legal obligation alone does not warrant exclusion from aid, in this case it would provide objective evidence for the harm-based reason for the transfer.

There may be some other cases of funding where the primacy of the harm-based reason is relatively uncontroversial even in the absence of legal obligation. One example would be the relief of "odious debt", where wealthy countries or their investors lent money to recognisably corrupt or authoritarian governments when they knew (or at least should have known) that the money would be misused.⁸⁸ The situation becomes more complex when funding involves a mix of harm-based and other duties. Think, for example, of aid to former colonies, where duties relating to remedying harm, providing assistance and honouring associative ties may all be relevant motivating factors.⁸⁹ Even though theorists such as Pogge might classify these and other cases as involving harm-based responsibilities, it would be difficult to maintain that those responsibilities displace (or cover as large a proportion of needs as) responsibilities to assist.

Climate finance also constitutes a case where duties of harm and assistance are both important. Thus Caney has argued that the harm-based "polluter pays principle" is not sufficient to allocate all moral responsibilities for climate change. In particular, this principle cannot adequately cover what he calls "the Remainder", namely harmful impacts resulting from emissions of previous generations, naturally

⁸⁸ See generally Barry and Tomitova, "Fairness in sovereign debt". There may be a further reason to exclude many cases of debt relief from aid (or at least ensure that they are additional to existing aid levels) where indebted countries have not been able to keep up with their interest repayments, so that debt relief does not immediately free up other resources for development.

⁸⁹ Ypi, Goodin, and Barry, "Associative duties, global justice, and the colonies".

occurring climate change, and emissions that are necessary for basic subsistence.⁹⁰ Harm-based principles are inadequate to address the Remainder for reasons of empirical uncertainty as well as moral disagreement about assigning responsibility for certain types of emissions. Accordingly, Caney argues that we must invoke other moral principles in order to respond to severe deprivation resulting from climate change, in particular the principle of a country's ability to pay.⁹¹

Should funding in mixed cases be excluded from aid? There is good reason to think that as a general rule it should not be excluded. Exclusion would run against the idea of respecting the plurality of permissible moral reasons that people may hold for providing aid. Distinguishing mixed from "pure" cases of assistance would also raise evidentiary difficulties in practice. The fact that climate finance is subject to legal obligation does not overcome the evidentiary problem, since the relevant obligation is not an ascription of liability for wrongful action but rather a promissory obligation. Whether excluding mixed cases from aid would increase or diminish donors' incentives to provide funding for those cases will ultimately hinge on empirical evidence. However, given the limited availability of legal avenues for obtaining compensation for climate change damages at the international level, aid eligibility could give reluctant countries an incentive to provide funds.

A final concern is that funding required on the basis of harm-based responsibilities should be delivered in a way that is different from the donor-recipient relationship associated with aid and more like that of a duty-bearer and entitlement-holder under a compensation arrangement. On this argument, climate finance should be provided in the form of a monetary transfer with no conditions attached.⁹²

However, funding may already be counted as aid even if it is delivered outside aid agencies. Improving recipients' "ownership" over funds would not necessarily require exclusion from aid but could be achieved through multilateral funding

⁹⁰ Caney, "Climate change and the duties of the advantaged": 213.

⁹¹ Ibid.

⁹² India, "Supplemental submission by India".

arrangements that give recipients a greater voice while recognising the interest of taxpayers in contributing countries in the effective use of funds.⁹³

6.5.3 *Redefinition and its alternatives*

My analysis so far has indicated that the most troubling implication of counting climate finance as aid is that wealthy countries could divert substantial amounts of funding away from other development priorities and away from the poorest if they rely on existing aid budgets to meet rising climate finance commitments. There remains the question of whether redefinition is the only or the best response to this problem. Here I outline some of the more widely discussed alternatives to redefinition.

First, contributing countries could agree that even if climate finance is counted as aid it should nevertheless remain “additional” to existing aid according to some credible baseline (such as a projection of donors’ future aid spending). More detailed analysis elsewhere has noted the difficulty of constructing a baseline that is both robust and likely to command widespread acceptance amongst contributor and recipient countries.⁹⁴ Second, contributing countries could set collective or individual caps on the proportion of aid that could be used for climate finance or other contentious objectives.⁹⁵ While not as likely to prevent diversion as a robust standard of additionality, this option would provide a more readily observable yardstick.

A third option is to encourage donors to redouble their efforts to meet the UN aid target. Stern has proposed such a strategy:

⁹³ See Jonathan Pickering and Frank Jotzo, "Splitting the difference in global climate finance: Are fragmentation and legitimacy mutually exclusive?" *Centre for Climate Economics and Policy (CCEP) Working Paper 1308, November 2013* (Canberra: Australian National University, 2013) [Chapter 5].

⁹⁴ Stadelmann, Roberts, and Michaelowa, "New and additional to what?"

⁹⁵ The United Kingdom, for example, has pledged to use a maximum of ten per cent of its aid budget to meet its climate finance commitments: Gordon Brown, Roadmap to Copenhagen speech, 2009, accessed 20 December 2013.

<http://webarchive.nationalarchives.gov.uk/+/number10.gov.uk/news/speeches-and-transcripts/2009/06/roadmap-to-copenhagen-speech-19813>.

Rather than insisting on some hard-to-define “additionality” of adaptation funding it may be better to argue that the rationale for this level of aid [i.e. the 0.7% target] is very powerful even before we understood and considered the effects of climate change; when we factor climate change in, and it would be foolish to ignore it, the arguments are absolutely compelling.⁹⁶

Rolling climate finance commitments into progress towards the aid target could distract donors’ attention from the need to scale up their aid to meet pre-existing development needs, and may seem too lenient on those countries that have not met existing targets. But its potential downsides could be minimised if, as Stern suggests, this is a short-term concession.

Stern’s proposal for a long-term approach constitutes the fourth option, namely redefining aid targets based on an integrated assessment of development and climate finance needs.⁹⁷ Such an approach has the advantage of providing a more coherent match between the definition of aid and the intertwined development needs that aid targets seek to address. However, redefining the aid target may not by itself prompt donors to provide any more aid.

A fifth option is to diversify sources of funding beyond aid. Many countries and commentators see innovative funding sources—such as establishing levies on international air and sea transport or stimulating private investment—as an essential ingredient for fulfilling long-term climate finance commitments.⁹⁸ This approach has the advantage of reducing donors’ incentives to rely on aid budgets to meet their climate finance commitments. However, in the absence of a cap on the proportion of aid that can be allocated for climate finance purposes, it does not eliminate the risk that a substantial share of aid could be diverted from existing development priorities.

I consider that concerns about diversion and double-counting could be substantially reduced by a combination of (i) plausible baselines for additionality, (ii) caps on the

⁹⁶ Stern, *A blueprint for a safer planet*, 73.

⁹⁷ Ibid.

⁹⁸ See Romani and Stern, "Sources of finance for climate action".

proportion of aid that could be used for climate finance purposes (say five or ten per cent of total aid), and (iii) concerted efforts to mobilise alternative sources of funding. With these arrangements in place, some but by no means all climate finance would count as aid, and some but by no means an excessive amount of aid could be earmarked for climate finance. Redefinition of aid to exclude climate finance would only be necessary if such alternatives could not be implemented effectively. If any climate finance were to be excluded, mitigation finance should be a higher priority than adaptation finance, given that the risk of diversion is greater in the case of the former.

6.6 Conclusion

In this article I have sought to demonstrate how a more rigorous analytical framework may clarify the widely debated question of what should count as aid. Integrity-based approaches that seek a close correspondence between the elements of a definition and the requirements of a moral responsibility to assist the poor have some merits. However, such approaches face difficulties in addressing considerations of reasonable pluralism and functional correspondence between duties and institutions. A simplified objective-based approach aiming to maximise beneficial consequences for the poor may address the former difficulty but struggles with the latter. I have argued that by analysing aid as a social practice we may produce a modified objective-based approach that is better able to take account of the range of moral purposes that a definition of aid may advance, including expressive and co-benefit objectives, as well as meeting requirements of feasibility.

Although all the components of the OECD's definition of aid are open to criticism in varying degrees, I have argued that its general orientation—defining aid according to its primary developmental objective rather than its outcomes or the moral reasons underpinning it—remains a valid approach to encompassing the range of altruistic and self-interested reasons that donors have for assisting the poor. Accordingly, rather than recasting the overall objective of aid we should focus more

closely on whether donor practices would be improved by widening the range of specific exclusions from aid eligibility.

The preceding analysis has identified several areas where exclusions from aid may be justifiable, namely where funding (i) primarily benefits donor countries despite providing some benefits to recipients (as in the case of unsubsidised loans and counter-terrorism assistance), or (ii) has ambivalent or harmful effects on development interests (as in the case of military aid). The case study of climate finance has identified a further area for exclusion, namely where funding (iii) primarily fulfils legal or otherwise definitive obligations to remedy harm (as in the case of judicial compensation or cancellation of odious debt). Although these justifications would only arise in a limited number of cases, adopting further exclusions could help to improve the integrity of the aid regime and its quality. Further analysis will be necessary to evaluate the incentive effects of such exemptions on the overall quantity of aid, but I have argued that there are reasons for thinking that applying exclusions (exclusion (iii) being particularly suggestive) may enhance—or at the very least will not diminish—the overall resources available to developing countries.

Nevertheless, I have argued that none of these three grounds for exclusion applies unequivocally to climate finance. Instead, I consider the greatest concern about including climate finance as aid to be the risk that meeting climate finance commitments through aid budgets could divert funding away from the poorest and damage the integrity of the aid regime. This issue highlights a more general problem for the definition of aid: should the definition of aid change to reflect varying development needs, and if so, how can it do so while satisfying the requirement of stability. At least in the case of climate finance, however, exclusion may not be sufficient to solve the diversion problem and may raise further practical difficulties given the complementarities between many development and adaptation measures. Thus I have argued that it is preferable to pursue alternative policy responses through placing a modest cap on the proportion of climate finance in aid budgets and pursuing innovative sources of climate finance.

Improving the wellbeing of the world's poor will clearly require much more than an improved definition of aid. Not least will it be important to develop a broader measure of wealthy countries' development efforts. But efforts to formulate a broader measure should not detract from the importance of retaining a soundly based concept of aid. Indeed having two measures that complement one another may help to reduce pressure on a single concept to do all the moral heavy lifting. Complementarity can be seen at work, for example, in the idea of basic rights, which helps to identify a set of particularly urgent interests that may form part of a broader conception of human rights.⁹⁹ Similarly, rather than stretching the notion of aid too far, current work to formulate a broader measure of development effort provides an opportunity to distil the essential features of aid so as to equip it better to achieve its moral purposes.

⁹⁹ Shue, *Basic rights*.

Chapter 7. Conclusion

7.1 Policy implications

In the preceding chapters I have sought to identify pathways towards a fairer global climate regime that I believe are capable of gaining widespread political acceptance—and capable of institutional implementation—within a reasonable timeframe without requiring revolutionary changes to the global order.

Key recommendations for national policy-makers include the following:

- Identify ways of framing the global mitigation challenge that can provide a basis for agreement among a wide range of countries, such as sharing the global carbon budget (Chapter 2);
- Strike a principled bargain on global mitigation efforts involving greater differentiation of countries according to objective criteria of responsibility and capability (national differentiation) rather than rigid and arbitrary country groupings (categorical differentiation) (Chapter 3);
- Set aside a portion of revenue from the implementation of climate change policies to compensate domestic and foreign citizens who will suffer disproportionate losses from those policies (Chapter 4);
- Strengthen domestic and international social protection mechanisms to shield vulnerable groups from disproportionate losses, whether those losses result from climate change, the introduction of climate policies, or other global economic risks (Chapter 4);
- Intensify multilateral coordination to raise climate finance for developing countries from carbon pricing, including by regulating international aviation and maritime emissions (Chapter 5);
- Concurrently pursue unilateral strategies for raising climate finance, particularly through earmarking funds from domestic carbon pricing and redirecting fossil fuel subsidies (Chapter 5);

- Introduce more stringent requirements for ensuring that meeting climate finance commitments does not come at the cost of diverting aid from existing development priorities (Chapter 6).

Developed and developing countries could make substantial progress on these issues in current UNFCCC negotiations on a longer-term global climate agreement. At the same time, several of these recommendations represent opportunities and requirements for national action regardless of whether or when a global agreement is reached.

In addition to these recommendations for climate policy, Chapter 6 also yields a range of recommendations for future directions in aid policy, notably the idea that the current review of post-2015 development goals and the role of development finance in supporting future goals provides an opportunity to improve the integrity of aid by tightening its focus on funding that accords with the spirit of the development objective.

7.2 Theoretical insights

The thesis has also generated a range of theoretical insights. I have canvassed a number of the insights from individual chapters in the thesis introduction.¹ Here I comment briefly on how the chapters together may inform future theory on climate ethics. A central insight is that if climate ethics is to have greater influence on climate policy, it needs to take into account a wider range of political and institutional considerations in a principled and systematic way, including:

- Divergent perceptions of fairness among developed and developing countries;
- Opportunities for and constraints upon action presented by multilateral climate change institutions; and
- Relationships between the climate change regime and other international and domestic institutions that affect the global distribution of resources.

¹ See section 1.3.

Taking these considerations into account implies that we cannot blithely propose that a particular moral principle should be translated into an institutional prescription without having first considered (i) the likelihood of the principle's acceptance internationally or (ii) the feasibility of policy instruments capable of advancing the principle. Nor can we ignore the fact that responsibilities associated with climate change form part of a broader set of global responsibilities to avoid harm and to assist those suffering deprivation. At the same time, taking these considerations into account does not mean pandering to conceptions of fairness that are merely a guise for self-interest. Nor does it mean that in order to address one source of injustice in the climate regime we must address all sources of injustice at once. Rather, a fair response to climate change should at a minimum avoid exacerbating injustices in other areas, and where possible should seek out opportunities for mutual reinforcement, particularly in promoting climate-resilient development.

7.3 Areas for further research

The questions I have explored in the thesis have mapped out some new areas of inquiry that merit further analysis. In addition, while the articles have focused on the case of climate change, the methods used in several chapters could readily be applied to other concerns of global justice. Some promising areas of further research that scholars could usefully investigate include:

- Comparative analysis of alternative frames that could provide a basis for a global climate agreement, including carbon budgets, the emissions gap and equitable access to sustainable development (Chapter 2);
- Comprehensive and updated mapping of the commonalities and differences among developed and developing countries in their perceptions of what a fair climate regime should involve (Chapter 3);
- Development and refinement of reference frameworks that translate widely accepted moral principles into quantified and straightforward effort-sharing arrangements for mitigation, and economic modelling of their environmental effectiveness and feasibility (Chapter 3);

- Comparative analysis of the rationales for government compensation where non-climate policies result in adverse transnational impacts on vulnerable groups, drawing on the account of disproportionate losses presented earlier (Chapter 4);
- Comparative analysis of the effects of fragmented governance on institutional legitimacy in other spheres of global governance, drawing on our account of policy functions (Chapter 5);
- Empirical evidence to help clarify the likely effects of changing the definition of aid on the wellbeing of the poor (Chapter 6);
- Extension of the approach to defining aid to other social practices, including questions of who should count as a refugee and what should count as human rights (Chapter 6).

7.4 Concluding remarks

Much remains to be achieved in global climate policy, and there is limited time left to agree upon and implement actions that will add up to a worldwide response capable of avoiding dangerous climate change. Moreover, clearly a much wider range of policy actions that fall beyond the scope of the thesis are required. These include (among other priorities) continually refining the scientific basis for action, motivating public support for domestic and international responses to climate change, introducing effective and equitable domestic climate policies, engaging non-state actors, developing and diffusing technologies for cleaner development and greater resilience to climate change impacts, and delivering climate change finance transparently and effectively. Nevertheless, I hope to have demonstrated that grappling at a practical level with the specific moral problems identified in the thesis may not only enable us to identify ways of overcoming roadblocks to progress on climate change but also help us to find a clearer path through the broader moral landscape.

Bibliography

- Abbott, Kenneth W., and Duncan Snidal. "International regulation without international government: Improving IO performance through orchestration." *Review of International Organizations* 5, no. 3 (2010): 315-44.
- Agarwal, Anil, and Sunita Narain. *Global warming in an unequal world: A case of environmental colonialism*. New Delhi: Centre for Science and Environment, 1991.
- AGF. "Report of the Secretary-General's High-level Advisory Group on Climate Change Financing." New York: United Nations, 2010.
- Albin, Cecilia. *Justice and fairness in international negotiation*. Cambridge, UK; New York: Cambridge University Press, 2001.
- Aldy, Joseph E., Alan J. Krupnick, Richard G. Newell, Ian W. H. Parry, and William A. Pizer. "Designing climate mitigation policy." *Journal of Economic Literature* 48, no. 4 (2010): 903-34.
- Aldy, Joseph E., and Robert N. Stavins. "The promise and problems of pricing carbon: Theory and experience." *The Journal of Environment & Development* 21, no. 2 (2012): 152-80.
- Allen, Myles R., David J. Frame, Chris Huntingford, Chris D. Jones, Jason A. Lowe, Malte Meinshausen, and Nicolai Meinshausen. "Warming caused by cumulative carbon emissions towards the trillionth tonne." *Nature* 458 (2009): 1163-66.
- Anderson, Elizabeth. "How should egalitarians cope with market risks?" *Theoretical Inquiries in Law* 9 (2008): 239-70.
- Australia. "Mitigation: Submission to the AWG-LCA and the AWG-KP (24 November 2008)." 73-79. Bonn: UNFCCC, 2008.
- Ayers, Jessica M., and Saleemul Huq. "Supporting adaptation to climate change: What role for Official Development Assistance?" *Development Policy Review* 27, no. 6 (2009): 675-92.
- Baer, Paul. "International justice." In *The Oxford handbook of climate change and society*, edited by John Dryzek, Richard B. Norgaard and D. Schlosberg, 323-37. Oxford: Oxford University Press, 2011.
- Baer, Paul, Glenn Fieldman, Tom Athanasiou, and Sivan Kartha. "Greenhouse development rights: Towards an equitable framework for global climate policy." *Cambridge Review of International Affairs* 21, no. 4 (2008): 649-69.
- Ballesteros, Athena, Smita Nakhoda, Jacob Werksman, and Kaija Hurlburt. "Power, responsibility, and accountability: Rethinking the legitimacy of institutions for climate finance." *Climate Law* 1 (2010): 261-312.

- Barker, T, I. Bashmakov, A. Alharthi, M. Amann, L. Cifuentes, J. Drexhage, M. Duan, O. Edenhofer, B. Flannery, M. Grubb, M. Hoogwijk, F. I. Ibitoye, C. J. Jepma, W.A. Pizer, and K. Yamaji. "Mitigation from a cross-sectoral perspective." In *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* edited by B. Metz, O.R. Davidson, P.R. Bosch, R. Dave and L.A. Meyer. Cambridge, UK; New York, NY: Cambridge University Press, 2007.
- Barnett, Jon, and Suraje Dessai. "Articles 4.8 and 4.9 of the UNFCCC: Adverse effects and the impacts of response measures." *Climate Policy* 2, no. 2 (2002): 231-39.
- Barnett, Jon, Suraje Dessai, and Michael Webber. "Will OPEC lose from the Kyoto protocol?" *Energy Policy* 32, no. 18 (2004): 2077-88.
- Barrett, Scott. *Environment and statecraft: The strategy of environmental treaty-making*. Oxford: Oxford University Press, 2003.
- . *Why cooperate? The incentive to supply global public goods*. Oxford: Oxford University Press, 2007.
- Barry, C., and N. Southwood. "What is special about human rights?" *Ethics and International Affairs* 25, no. 3 (2011): 369-83.
- Barry, Christian. "Applying the contribution principle." *Metaphilosophy* 36, no. 1-2 (2005): 210–27.
- Barry, Christian, and Gerhard Øverland. "Are trade subsidies and tariffs killing the global poor?" *Social Research* 79, no. 4 (2012): 865-96.
- . "The feasible alternatives thesis: Kicking away the livelihoods of the global poor." *Politics, Philosophy & Economics* 11, no. 1 (2012): 97-119.
- . "On the implications of failing to assist." Unpublished manuscript, 2011.
- Barry, Christian, and Lydia Tomitova. "Fairness in sovereign debt." *Ethics & International Affairs* 21, no. S1 (2007): 41-79.
- Barry, Christian, and Laura Valentini. "Egalitarian challenges to global egalitarianism: A critique." *Review of International Studies* 35, no. 03 (2009): 485-512.
- BASIC experts. "Equitable access to sustainable development: Contribution to the body of scientific knowledge." Beijing, Brasilia, Cape Town and Mumbai: BASIC expert group, 2011.
- Bassetti, Thomas, Nikos Benos, and Stelios Karagiannis. "CO₂ emissions and income dynamics: What does the global evidence tell us?" *Environmental and Resource Economics* 54, no. 1 (2013): 101-25.
- Bayer, Patrick, and Johannes Urpelainen. "Funding global public goods: The dark side of multilateralism." *Review of Policy Research* 30, no. 2 (2013): 160-89.
- Beitz, Charles R. *The idea of human rights*. Oxford: Oxford University Press, 2009.
- . *Political theory and international relations*. Princeton, NJ: Princeton University Press, 1999 [1979].

- Biermann, Frank, and Aarti Gupta. "Accountability and legitimacy in earth system governance: A research framework." *Ecological Economics* 70, no. 11 (2011): 1856-64.
- Biermann, Frank, Philipp Pattberg, Harro van Asselt, and Fariborz Zelli. "The fragmentation of global governance architectures: A framework for analysis." *Global Environmental Politics* 9, no. 4 (2009): 14-40.
- Birks, Peter. *Unjust enrichment*. Oxford, UK: Oxford University Press, 2003.
- Birnie, Patricia, Alan Boyle, and Catherine Redgwell. *International law and the environment*. 3rd ed. Oxford: Oxford University Press, 2009.
- Boccanfuso, Dorothée, Antonio Estache, and Luc Savard. "The intra-country distributional impact of policies to fight climate change: A survey." *Journal of Development Studies* 47, no. 1 (2011): 97-117.
- Bodansky, Daniel. "The legitimacy of international governance: A coming challenge for international environmental law?" *American Journal of International Law* 93, no. 3 (1999): 596-624.
- . "A tale of two architectures: The once and future UN climate change regime." *SSRN eLibrary* (2011).
- . "The United Nations Framework Convention on Climate Change: A commentary." *Yale Journal of International Law* 18 (1993): 451-558.
- Böhringer, Christoph, Carolyn Fischer, and Einar Rosendahl Knut. "The global effects of subglobal climate policies." *B.E. Journal of Economic Analysis & Policy* 10, no. 2 (2010): 1-33.
- Bolivia. "Commitments for Annex I parties under paragraph 1(b)(i) of the Bali Action Plan: Evaluating developed countries' historical climate debt to developing countries." 44-51. Bonn: UNFCCC, 2009.
- Bosetti, Valentina, and Jeffrey Frankel. "Politically feasible emissions targets to attain 460 ppm CO₂ concentrations." *Review of Environmental Economics and Policy* 6, no. 1 (2012): 86-109.
- Botzen, W.J.W., J.M. Gowdy, and J.C.J.M. van den Bergh. "Cumulative CO₂ emissions: Shifting international responsibilities for climate debt." *Climate Policy* 8 (2008): 569-76.
- Bovens, Luc. "A Lockean defense of grandfathering emission rights." In *The ethics of global climate change*, edited by Denis G. Arnold, 124-44. Cambridge, UK: Cambridge University Press, 2011.
- Bowen, Alex. "Raising climate finance to support developing country action: Some economic considerations." *Climate Policy* 11, no. 3 (2011): 1020-36.
- Brahmbhatt, Milan, and Andrew Steer. "Mobilizing climate finance." In *International climate finance*, edited by Erik Haites, 135-50. London: Routledge, 2013.
- Bräutigam, Deborah. "Aid 'with chinese characteristics': Chinese foreign aid and development finance meet the OECD-DAC aid regime." *Journal of International Development* 23, no. 5 (2011): 752-64.

- Brennan, Geoffrey, and Philip Pettit. *The economy of esteem: An essay on civil and political society*. Oxford: Oxford University Press, 2004.
- . "The feasibility issue." In *The Oxford handbook of contemporary philosophy*, edited by Frank Jackson and Michael Smith, 258-79. Oxford: Oxford University Press, 2005.
- Bronckers, Marco, and Naboth van den Broek. "Financial compensation in the WTO." *Journal of International Economic Law* 8, no. 1 (2005): 101-26.
- Broome, John. *Climate matters*. New York; London: W.W. Norton, 2012.
- . "Fairness." *Proceedings of the Aristotelian Society* 91 (1990): 87-101.
- Brown, Gordon. "Roadmap to Copenhagen speech". 2009. accessed 20 December 2013.
<http://webarchive.nationalarchives.gov.uk/+number10.gov.uk/news/speeches-and-transcripts/2009/06/roadmap-to-copenhagen-speech-19813>.
- Brzoska, Michael. "Extending ODA or creating a new reporting instrument for security-related expenditures for development?" *Development Policy Review* 26, no. 2 (2008): 131-50.
- Buchanan, Allen. *Justice, legitimacy, and self-determination*. Oxford: Oxford University Press, 2004.
- Buchanan, Allen, and Robert O. Keohane. "The legitimacy of global governance institutions." *Ethics & International Affairs* 20, no. 4 (2006): 405-37.
- Buchner, Barbara, Morgan Herve-Mignucci, Chiara Trabacchi, Jane Wilkinson, Martin Stadelmann, Rodney Boyd, Federico Mazza, Angela Falconer, and Valerio Micale. "The global landscape of climate finance 2013." Venice: Climate Policy Initiative, 2013.
- Büchs, Milena, Nicholas Bardsley, and Sebastian Duwe. "Who bears the brunt? Distributional effects of climate change mitigation policies." *Critical Social Policy* 31, no. 2 (2011): 285-307.
- Bumiller, Elisabeth, and Adam Nagourney. "Bush: 'America is addicted to oil'." *New York Times* 2006.
- Burnside, Craig, and David Dollar. "Aid, policies, and growth." *American Economic Review* 90, no. 4 (2000): 847-68.
- Butt, Daniel. *Rectifying international injustice: Principles of compensation and restitution between nations*. Oxford: Oxford University Press, 2009.
- Calabresi, Guido. *The cost of accidents: A legal and economic analysis*. New Haven, CT: Yale University Press, 1970.
- Caldwell, Lynton Keith. *International environmental policy: From the twentieth to the twenty-first century*. 3rd ed. Durham, NC: Duke University Press, 1996.
- Caney, Simon. "Addressing poverty and climate change: The varieties of social engagement." *Ethics & International Affairs* 26, no. 2 (2012): 191-216.

- . "Climate change and the duties of the advantaged." *Critical Review of International Social and Political Philosophy* 13, no. 1 (2010): 203-28.
- . "Climate change, human rights and moral thresholds." In *Human rights and climate change*, edited by Stephen Humphreys, 69-90. Cambridge: Cambridge University Press, 2010.
- . "Cosmopolitan justice, responsibility, and global climate change." *Leiden Journal of International Law* 18 (2005): 747-75.
- . "Cosmopolitan justice, rights and global climate change." *Canadian Journal of Law and Jurisprudence* 19, no. 2 (2006): 255-78.
- . "Just emissions." *Philosophy & Public Affairs* 40, no. 4 (2012): 255-300.
- . "Justice and the distribution of greenhouse gas emissions." *Journal of Global Ethics* 5, no. 2 (2009): 125-46.
- . *Justice beyond borders: A global political theory*: Oxford University Press, 2005.
- Center for Global Development. "Commitment to development index". 2013. Accessed 20 December 2013. <http://www.cgdev.org/initiative/commitment-development-index/index>
- Chakravarty, Shoibal, Ananth Chikkatur, Heleen de Coninck, Stephen Pacala, Robert Socolow, and Massimo Tavoni. "Sharing global CO₂ emission reductions among one billion high emitters." *Proceedings of the National Academy of Sciences USA* 106 (2009): 11884–88.
- Chipman, John S. "Compensation principle." In *The New Palgrave Dictionary of Economics Online*, edited by Steven N. Durlauf and Lawrence E. Blume. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2008.
- Ciplet, David, Spencer Fields, Keith Madden, Mizan Khan, and Timmons Roberts. "The eight unmet promises of fast-start climate finance." *IIED briefing*. London: International Institute for Environment and Development, 2012.
- Ciplet, David, J. Timmons Roberts, and Mizan Khan. "The politics of international climate adaptation funding: Justice and divisions in the greenhouse." *Global Environmental Politics* 13, no. 1 (2013): 49-68.
- Clarke, Leon, Jae Edmonds, Volker Krey, Richard Richels, Steven Rose, and Massimo Tavoni. "International climate policy architectures: Overview of the EMF 22 international scenarios." *Energy Economics* 31, Supplement 2 (2009): S64-S81.
- Clemens, Michael A., and Todd J. Moss. "The ghost of 0.7 per cent: Origins and relevance of the international aid target." *International Journal of Development Issues* 6, no. 1 (2007): 3-25.
- Clemens, Michael A., Steven Radelet, Rikhil R. Bhavnani, and Samuel Bazzi. "Counting chickens when they hatch: Timing and the effects of aid on growth." *The Economic Journal* 122, no. 561 (2012): 590-617.

- Climate-justice.info. "World people's conference on climate change and the rights of Mother Earth, Cochabamba, Bolivia (19-20 april 2010): Outcome on climate debt". 2010. Accessed 20 December 2013. <http://climate-justice.info/2010/04/world-peoples-conference-outcome-on-climate-debt/>.
- Climate Justice Now. "Bolivia responds to U.S. On climate debt: "If you break it, you buy it."". 11 December 2009. Accessed 20 December 2013. <http://www.climate-justice-now.org/bolivia-responds-to-us-on-climate-debt-if-you-break-it-you-buy-it/>.
- Cohen, Joshua, and Charles Sabel. "Extra rempublicam nulla justitia?" *Philosophy & Public Affairs* 34, no. 2 (2006): 147-75.
- Cranor, Carl. "Some moral issues in risk assessment." *Ethics* 101, no. 1 (1990): 123-43.
- Crawford, Neta C. *Argument and change in world politics: Ethics, decolonization, and humanitarian intervention*. Cambridge: Cambridge University Press, 2002.
- Daniels, Norman. *Justice and justification: Reflective equilibrium in theory and practice*. Cambridge: Cambridge University Press, 1996.
- Day, Benjamin. "A new journey on a worn path? The aid cuts in context". *DevPolicy blog*, 7 September 2013. Accessed 20 December 2013. <http://devpolicy.org/a-new-journey-on-a-worn-path-the-aid-cuts-in-context-20130907/>.
- De Bres, Helena. "The many, not the few: Pluralism about global distributive justice." *Journal of Political Philosophy* 20, no. 3 (2012): 314-40.
- De Shalit, Avner. "Climate change refugees, compensation, and rectification." *The Monist* 94, no. 3 (2011): 310-28.
- Den Elzen, Michel, Marcel Berk, Paul Lucas, Patrick Criqui, and Alban Kitous. "Multi-stage: A rule-based evolution of future commitments under the climate change Convention." *International Environmental Agreements: Politics, Law and Economics* 6, no. 1 (2006): 1-28.
- Depledge, Joanna. "The opposite of learning: Ossification in the climate change regime." *Global Environmental Politics* 6, no. 1 (2006): 1-22.
- . "The road less travelled: Difficulties in moving between annexes in the climate change regime." *Climate Policy* 9 (2009): 273-87.
- . "Striving for no: Saudi Arabia in the climate change regime." *Global Environmental Politics* 8, no. 4 (2008): 9-35.
- Dietsch, Peter. "Rethinking sovereignty in international fiscal policy." *Review of International Studies* 37, no. 5 (2011): 2107-20.
- Dobson, Andrew. *Justice and the environment: Conceptions of environmental sustainability and dimensions of social justice*. Oxford: Oxford University Press, 1998.

- Doris, John M., and Stephen P. Stich. "As a matter of fact: Empirical perspectives on ethics." In *Oxford handbook of contemporary philosophy*, edited by Frank Jackson and Michael Smith, 114-52. Oxford: Oxford University Press, 2005.
- Dryzek, John S. "Rhetoric in democracy: A systemic appreciation." *Political Theory* 38, no. 3 (2010): 319-39.
- Dryzek, John S., and Hayley Stevenson. "Global democracy and earth system governance." *Ecological Economics* 70, no. 11 (2011): 1865-74.
- Dummett, Michael. *On immigration and refugees*. London: Routledge, 2001.
- Dworkin, Ronald. *Law's empire*. Cambridge, MA: Belknap Press of Harvard University Press, 1986.
- Eckersley, Robyn. "Moving forward in climate negotiations: Multilateralism or minilateralism?" *Global Environmental Politics* 12, no. 2 (2012): 24-42.
- . "The politics of carbon leakage and the fairness of border measures." *Ethics & International Affairs* 24, no. 4 (2010): 367-93.
- Economist. "Largest sovereign-wealth funds." 10 March 2011.
- Ekholm, Tommi, Sampo Soimakallio, Sara Moltmann, Niklas Höhne, Sanna Syri, and Ilkka Savolainen. "Effort sharing in ambitious, global climate change mitigation scenarios." *Energy Policy* 38, no. 4 (2010): 1797-810.
- Elliott, Kimberly. "Subsidizing farmers and biofuels in rich countries: An incoherent agenda for food security." *CGD Policy Paper 032 (September 2013)*. Washington, DC: Center for Global Development, 2013.
- Epstein, Richard A. "The harm principle - and how it grew." *The University of Toronto Law Journal* 45, no. 4 (1995): 369-417.
- . *Takings: Private property and the power of eminent domain*. Cambridge, MA: Harvard University Press, 1985.
- European Commission. "Scaling up international climate finance after 2012." Brussels, 2011.
- . "Submission to UNFCCC work programme on long-term finance." UNFCCC, 2013.
- Falkner, Robert, Hannes Stephan, and John Vogler. "International climate policy after Copenhagen: Towards a 'building blocks' approach." *Global Policy* 1, no. 3 (2010): 252-62.
- Farber, Daniel A. "Basic compensation for victims of climate change." *University of Pennsylvania Law Review* 155 (2007): 1605-56.
- Faure, Michael G, and André Nollkaemper. "International liability as an instrument to prevent and compensate for climate change." *Stanford Journal of International Law* 43, no. 123-179 (2007).
- Faure, Michael, and Marjan Peeters, eds. *Climate change liability*. Cheltenham, UK: Edward Elgar, 2011.

- Feeny, Simon, and Mark McGillivray. "What determines bilateral aid allocations? Evidence from time series data." *Review of Development Economics* 12, no. 3 (2008): 515-29.
- Finnemore, Martha. *National interests in international society*. Ithaca: Cornell University Press, 1996.
- Finnemore, Martha, and Kathryn Sikkink. "International norm dynamics and political change." *International Organization* 52, no. 4 (1998): 887-917.
- Finus, Michael, and Dirk T. G. Rübbelke. "Public good provision and ancillary benefits: The case of climate agreements." *Environmental and Resource Economics* 56, no. 2 (2013): 211-26.
- Fischel, William A. *Regulatory takings: Law, economics, and politics*. Cambridge, MA: Harvard University Press, 1995.
- Fischer, Frank. *Reframing public policy*. Oxford: Oxford University Press, 2003.
- Franck, Thomas M. *Fairness in international law and institutions*. Oxford: Clarendon Press, 1995.
- Frey, Bruno S. "A constitution for knaves crowds out civic virtues." *The Economic Journal* 107, no. 443 (1997): 1043-53.
- Füssel, Hans-Martin. "How inequitable is the global distribution of responsibility, capability, and vulnerability to climate change: A comprehensive indicator-based assessment." *Global Environmental Change* 20, no. 4 (2010): 597-611.
- Garcia, J. "Constitutive rules." *Philosophia* 17, no. 3 (1987): 251-70.
- Gardiner, Stephen, Simon Caney, Dale Jamieson, and Henry Shue, eds. *Climate ethics: Essential readings*. Oxford: Oxford University Press, 2010.
- Gardiner, Stephen M. "Climate justice." In *The Oxford handbook of climate change and society*, edited by John Dryzek, Richard B. Norgaard and D. Schlosberg, 309-22. Oxford: Oxford University Press, 2011.
- . "Ethics and climate change: An introduction." *Wiley Interdisciplinary Reviews: Climate Change* 1, no. 1 (2010): 54-66.
- . "Ethics and global climate change." *Ethics* 114, no. 3 (2004): 555-600.
- . *A perfect moral storm: The ethical tragedy of climate change*. New York, NY: Oxford University Press, 2011.
- Garnaut, Ross. *The Garnaut Climate Change Review: Final report*. Melbourne: Cambridge University Press, 2008.
- Gilabert, Pablo. "Global justice and poverty relief in nonideal circumstances." *Social Theory and Practice* 34, no. 3 (2008): 411-38.
- Gilabert, Pablo, and Holly Lawford-Smith. "Political feasibility: A conceptual exploration." *Political Studies* 60, no. 4 (2012): 809-25.
- Global Fund. "Fourth replenishment (2014-2016): Needs assessment." Global Fund to Fight AIDS, Tuberculosis and Malaria, 2013.

- Goodin, Robert E, and Christian Barry. "Benefitting from other people's wrongdoing." Unpublished working paper, 2011.
- Goodin, Robert E. "Compensation and redistribution." In *Utilitarianism as a public philosophy*, 207-27. Cambridge: Cambridge University Press, 1995.
- . "Demandingness as a virtue." *The Journal of Ethics* 13, no. 1 (2009): 1-13.
- . "Enfranchising all affected interests, and its alternatives." *Philosophy & Public Affairs* 35, no. 1 (2007): 40-68.
- . *Political theory and public policy*. Chicago: University of Chicago Press, 1982.
- . *Protecting the vulnerable: A re-analysis of our social responsibilities*. Chicago: University of Chicago Press, 1985.
- . "Theories of compensation." *Oxford Journal of Legal Studies* 9, no. 1 (1989): 56-75.
- . "What is so special about our fellow countrymen?" *Ethics* 98, no. 4 (1988): 663-86.
- Grasso, Marco. "An ethical approach to climate adaptation finance." *Global Environmental Change* 20, no. 1 (2010): 74-81.
- Green, Jessica F. "Order out of chaos: Public and private rules for managing carbon." *Global Environmental Politics* 13, no. 2 (2013): 1-25.
- Grubb, Michael. "Cancún: The art of the possible." *Climate Policy* 11, no. 2 (2011): 847-50.
- . "International climate finance from border carbon cost levelling." *Climate Policy* 11, no. 3 (2011): 1050-57.
- Gsottbauer, Elisabeth, and Jeroen C J. M. den Bergh. "Bounded rationality and social interaction in negotiating a climate agreement." *International Environmental Agreements: Politics, Law and Economics* 13, no. 3 (2013): 225-49.
- Gupta, Joyeeta. "A history of international climate change policy." *Wiley Interdisciplinary Reviews: Climate Change* 1, no. 5 (2010): 636-53.
- Gupta, S, D. A. Tirpak, N. Burger, J. Gupta, N. Höhne, A. I. Boncheva, G. M. Kanoan, C. Kolstad, J. A. Kruger, A. Michaelowa, S. Murase, J. Pershing, T. Saijo, and A. Sari. "Policies, instruments and co-operative arrangements." In *Climate change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK; New York, NY: Cambridge University Press, 2007.
- Haites, Erik. "International climate finance." In *International climate finance*, edited by Erik Haites, 1-13. London: Routledge, 2013.
- Haites, Erik, and Carol Mwape. "Sources of long-term climate change finance." In *International climate finance*, edited by Erik Haites, 162-77. London: Routledge, 2013.
- Hallegatte, Stéphane. "Strategies to adapt to an uncertain climate change." *Global Environmental Change* 19, no. 2 (2009): 240-47.

- Halsnæs, K., P. Shukla, D. Ahuja, G. Akumu, R. Beale, J. Edmonds, C. Gollier, A. Grübler, M. Ha Duong, A. Markandya, M. McFarland, E. Nikitina, T. Sugiyama, A. Villavicencio, and J. Zou. "Framing issues." In *Climate change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK; New York, NY: Cambridge University Press, 2007.
- Hardin, Garrett. "The tragedy of the commons." *Science* 162, no. 3859 (1968): 1243-48.
- Hare, William, Claire Stockwell, Christian Flachsland, and Sebastian Oberthür. "The architecture of the global climate regime: A top-down perspective." *Climate Policy* 10, no. 6 (2010): 600-14.
- Harris, Paul G. *World ethics and climate change: From international to global justice, Edinburgh studies in world ethics*. Edinburgh: Edinburgh University Press, 2010.
- Harris, Paul G., and Jonathan Symons. "Norm conflict in climate governance: Greenhouse gas accounting and the problem of consumption." *Global Environmental Politics* 13, no. 1 (2012): 9-29.
- Hart, H.L.A. *The concept of law*. 3rd ed. Oxford: Oxford University Press, 2012 [1961].
- Hattori, Tomohisa. "Reconceptualizing foreign aid." *Review of International Political Economy* 8, no. 4 (2001): 633-60.
- Hayward, Tim. "Global justice and the distribution of natural resources." *Political Studies* 54, no. 2 (2006): 349-69.
- . "Human rights versus emissions rights: Climate justice and the equitable distribution of ecological space." *Ethics & International Affairs* 21, no. 4 (2007): 431-50.
- Henson, Spencer, and Johanna Lindstrom. "'A mile wide and an inch deep'? Understanding public support for aid: The case of the United Kingdom." *World Development* 42, no. 2 (2013): 67-75.
- Hepburn, Cameron. "International carbon finance and the Clean Development Mechanism." In *The economics and politics of climate change*, edited by Dieter Helm and Cameron Hepburn, 409-29. Oxford: Oxford University Press, 2009.
- Hepburn, Cameron, and Benito Müller. "International air travel and greenhouse gas emissions: A proposal for an adaptation levy." *World Economy* 33, no. 6 (2010): 830-49.
- Hepburn, Cameron, and Nicholas Stern. "The global deal on climate change." In *The economics and politics of climate change*, edited by Dieter Helm and Cameron Hepburn, 36-57. Oxford: Oxford University Press, 2009.
- Heyward, Madeleine. "Equity and international climate change negotiations: A matter of perspective." *Climate Policy* 7 (2007): 518-34.

- HLPE. "Biofuels and food security." Rome: The High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, 2013.
- . "Price volatility and food security." Rome: The High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, 2011.
- Hof, Andries F., Michel G. J. den Elzen, and Angelica Mendoza Beltran. "Predictability, equitability and adequacy of post-2012 international climate financing proposals." *Environmental Science & Policy* 14, no. 6 (2011): 615-27.
- Höhne, N, Michel den Elzen, and M Weiss. "Common but differentiated convergence (cdc): A new conceptual approach to long-term climate policy." *Climate Policy* 6, no. 2 (2006): 181-99.
- Höhne, Niklas, Helcio Blum, Jan Fuglestvedt, Ragnhild Skeie, Atsushi Kurosawa, Guoquan Hu, Jason Lowe, Laila Gohar, Ben Matthews, Ana Nioac de Salles, and Christian Ellermann. "Contributions of individual countries' emissions to climate change and their uncertainty." *Climatic Change* 106, no. 3 (2011): 359-91.
- Hovi, Jon, Detlef F. Sprinz, and Arild Underdal. "Implementing long-term climate policy: Time inconsistency, domestic politics, international anarchy." *Global Environmental Politics* 9, no. 3 (2009): 20-39.
- Huq, Saleemul, Erin Roberts, and Adrian Fenton. "Loss and damage." *Nature Climate Change* 3, no. 11 (2013): 947-49.
- IEA. "Renewable energy: Markets and prospects by region." *Information paper*. Paris: International Energy Agency, 2011.
- IMF. "World economic outlook 2011." Washington, DC: International Monetary Fund, 2011.
- India. "India's views on elements for decision on long term finance." Bonn: UNFCCC, 2011.
- . "Supplemental submission by India: Why financial contributions to the financial mechanism of the UNFCCC cannot be under the paradigm of 'aid'." 41. Bonn: UNFCCC, 2009.
- IPCC. *Climate change 2007: Synthesis report*. Cambridge, UK: Cambridge University Press, 2007.
- . "Summary for policymakers." In *Climate change 2013: The physical science basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by Thomas F. Stocker, Dahe Qin, Gian-Kasper Plattner, Melinda M.B. Tignor, Simon K. Allen, Judith Boschung, Alexander Nauels, Yu Xia, Vincent Bex Pauline and M. Midgley. Cambridge, UK; New York, NY, USA: Cambridge University Press, 2013.
- Jagers, Sverker C., and Göran Duus-Otterström. "Dual climate change responsibility: On moral divergences between mitigation and adaptation." *Environmental Politics* 17, no. 4 (2008): 576-91.

- James, Aaron. *Fairness in practice: A social contract for a global economy*. New York: Oxford University Press, 2012.
- Jamieson, Dale. "Ethics, public policy, and global warming." *Science Technology & Human Values* 17, no. 2 (1992): 139-53.
- Jamnejad, Maziar, and Michael Wood. "The principle of non-intervention." *Leiden Journal of International Law* 22, no. 2 (2009): 345-81.
- Jones, Benjamin, Michael Keen, and Jon Strand. "Fiscal implications of climate change." *International Tax and Public Finance* 20, no. 1 (2013): 29-70.
- Jotzo, Frank. "Comparing the Copenhagen emissions targets." *Crawford School Centre for Climate Economics & Policy Paper No. 1.10.*, 2010.
- Jotzo, Frank, Jonathan Pickering, and Peter J. Wood. "Fulfilling Australia's international climate finance commitments: Which sources of financing are promising and how much could they raise?" *Centre for Climate Economics and Policy (CCEP) Working Paper 1115*. Canberra: Australian National University, 2011.
- Kaplow, Louis. "An economic analysis of legal transitions." *Harvard Law Review* 99, no. 3 (1986): 509-617.
- Kapstein, Ethan B. *Economic justice in an unfair world: Toward a level playing field*. Princeton, NJ: Princeton University Press, 2007.
- Karlsson-Vinkhuyzen, Sylvia I., and Jeffrey McGee. "Legitimacy in an era of fragmentation: The case of global climate governance." *Global Environmental Politics* 13, no. 3 (2013): 56-78.
- Karp, David Jason. "The location of international practices: What is human rights practice?" *Review of International Studies* 39, no. 04 (2013): 969-92.
- Keohane, Robert O., and David G. Victor. "The regime complex for climate change." *Perspectives on Politics* 9, no. 1 (2011): 7-23.
- Khalfan, Ashfaq, Jeff King, and Bryan Thomas. "Advancing the odious debt doctrine." *Centre for International Sustainable Development Law working paper*. Montreal: McGill University, 2003.
- Kharas, Homi, and Andrew Rogerson. "Horizon 2025: Creative destruction in the aid industry." London: Overseas Development Institute, 2012.
- Kim, Soyeun, and Simon Lightfoot. "Does 'DAC-ability' really matter? The emergence of non-DAC donors." *Journal of International Development* 23, no. 5 (2011): 711-21.
- Kiss, Alex, and Dinah L. Shelton. "Strict liability in international environmental law." In *Law of the sea, environmental law and settlement of disputes: Liber amicorum Judge Thomas A. Mensah*, edited by Tafsir Malick Ndiaye and Rüdiger Wolfrum. Leiden: Brill Academic Publishers, 2007.
- Klein, Naomi. "Climate rage." *Rolling Stone*, 11 November 2009.
- Klein, R.J.T., S. Huq, F. Denton, T.E. Downing, R.G. Richels, J.B. Robinson, and F.L. Toth. "Inter-relationships between adaptation and mitigation." In *Climate*

change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, edited by M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, 745-77. Cambridge, UK: Cambridge University Press, 2007.

- Klinsky, Sonja, and Hadi Dowlatabadi. "Conceptualizations of justice in climate policy." *Climate Policy* 9 (2009): 88-108.
- Krey, Volker, and Keywan Riahi. "Implications of delayed participation and technology failure for the feasibility, costs, and likelihood of staying below temperature targets—greenhouse gas mitigation scenarios for the 21st century." *Energy Economics* 31, no. Supplement 2 (2009): S94-S106.
- Lange, A., C. Vogt, and A. Ziegler. "On the importance of equity in international climate policy: An empirical analysis." *Energy Economics* 29 (2007): 545-62.
- Lange, Andreas, Andreas Löschel, Carsten Vogt, and Andreas Ziegler. "On the self-interested use of equity in international climate negotiations." *European Economic Review* 54, no. 3 (2010): 359-75.
- Lichtenberg, Judith. "Negative duties, positive duties, and the 'new harms'." *Ethics* 120, no. 3 (2010): 557-78.
- Light, Andrew. "Climate ethics for climate action." In *Environmental ethics: What really matters? What really works?*, edited by David Schmidtz and Elizabeth Willott, 557-66. Oxford: Oxford University Press, 2011.
- Lister, Matthew. "Who are refugees?" *Law and Philosophy* 32, no. 5 (2013): 645-71.
- Lloyd, Peter. "Designing a carbon price policy: Introduction." *Australian Economic Review* 45, no. 1 (2012): 77-85.
- Locke, John. *Two treatises of government*. Edited by Peter Laslett. Cambridge: Cambridge University Press, 1988 [1690].
- Lockwood, Natalie J. "International vote buying." *Harvard International Law Journal* 54, no. 1 (2013): 97-156.
- Lövbrand, Eva, Teresia Rindeljäll, and Joakim Nordqvist. "Closing the legitimacy gap in global environmental governance? Lessons from the emerging CDM market." *Global Environmental Politics* 9, no. 2 (2009): 74-100.
- Lüken, Michael, Ottmar Edenhofer, Brigitte Knopf, Marian Leimbach, Gunnar Luderer, and Nico Bauer. "The role of technological availability for the distributive impacts of climate change mitigation policy." *Energy Policy* 39, no. 10 (2011): 6030-39.
- Lumsdaine, David Halloran. *Moral vision in international politics: The foreign aid regime, 1949-1989*. Princeton, NJ: Princeton University Press, 1993.
- Martin, Lisa L. "Interests, power, and multilateralism." *International Organization* 46, no. 4 (1992): 765-92.

- Martinez-Alier, Joan. "Distributional obstacles to international environmental policy: The failures at Rio and prospects after Rio." *Environmental Values* 2 no. 97-124 (1993).
- . *The environmentalism of the poor: A study of ecological conflicts and valuation*. Cheltenham, UK; Northampton, MA: Edward Elgar, 2002.
- McGillivray, Mark, Wim Naudé, and Amelia Santos-Paulino. "Small island states development challenges: Introduction." *Journal of International Development* 20, no. 4 (2008): 481-85.
- McKinnon, Catriona. *Climate change and future justice: Precaution, compensation, and triage*. Abingdon, UK: Routledge, 2012.
- Meinshausen, M, N Meinshausen, W Hare, S C B Raper, K Frieler, R Knutti, D J Frame, and M R Allen. "Greenhouse gas emission targets for limiting global warming to 2°C." *Nature* 458 (2009): 1158–62.
- Meyer, Lukas H. "Compensating wrongless historical emissions of greenhouse gases." *Ethical Perspectives* 11, no. 1 (2004): 20-35.
- Meyer, Lukas H., and Dominic Roser. "Climate justice and historical emissions." *Critical Review of International Social and Political Philosophy* 13, no. 1 (2010): 229 - 53.
- Michaelowa, Axel. "Can insurance deal with negative effects arising from climate policy measures?" *Climate Policy* 6, no. 6 (2006): 672-82.
- Michaelowa, Axel, and Katharina Michaelowa. "Climate or development: Is ODA diverted from its original purpose?" *Climatic change* 84, no. 1 (2007): 5-21.
- Michelman, Frank I. "Property, utility and fairness: Comments on the ethical foundations of "just compensation" law." *Harvard Law Review* 80, no. 6 (1967): 1165-258.
- Mill, John Stuart. *On liberty and other writings*. Edited by Stefan Collini. Cambridge, UK: Cambridge University Press, 1989 [1859].
- Miller, David. "Distributing responsibilities." *Journal of Political Philosophy* 9, no. 4 (2001): 453-71.
- . "Global justice and climate change: How should responsibilities be distributed?" In *The Tanner Lectures on Human Values*, 117-56. Salt Lake City: University of Utah Press, 2009.
- . *National responsibility and global justice*. Oxford: Oxford University Press, 2007.
- Miller, Seumas. "Collective responsibility, epistemic action and climate change." In *Moral responsibility: Beyond free will and determinism*, edited by Nicole A Vincent, Ibo van de Poel and Jeroen van den Hoven, 219-46. Heidelberg: Springer, 2011.
- . *Social action: A teleological account*. Cambridge, UK: Cambridge University Press, 2001.

- Mitchell, George E., and Hans Peter Schmitz. "Principled instrumentalism: A theory of transnational NGO behaviour." *Review of International Studies* (forthcoming (2013)): 1-18.
- Moellendorf, Darrel. "Climate change and global justice." *Wiley Interdisciplinary Reviews: Climate Change* 3, no. 2 (2012): 131-43.
- . *Cosmopolitan justice*. Boulder, Colorado: Westview, 2002.
- . "A normative account of dangerous climate change." *Climatic change* 108, no. 1 (2011): 57-72.
- . "A right to sustainable development." *The Monist* 94, no. 3 (2011): 433-52.
- . "Treaty norms and climate change mitigation." *Ethics & International Affairs* 23, no. 3 (2009): 247-65.
- . "The World Trade Organization and egalitarian justice." *Metaphilosophy* 36, no. 1/2 (2005): 145-62.
- Morgan, Jennifer, and David Waskow. "A new look at climate equity in the UNFCCC." *Climate Policy* 14, no. 1 (2013): 17-22.
- Mouawad, Jad, and Andrew C Revkin. "Saudis seek payments for any drop in oil revenues." *New York Times*, 13 October 2009.
- Müller, Benito. "International adaptation finance: The need for an innovative and strategic approach." Oxford: Oxford Institute for Energy Studies, 2008.
- Musgrave, Peggy B. "Combining fiscal sovereignty and coordination: National taxation in a globalizing world." In *The new public finance: Responding to global challenges*, edited by Inge Kaul and Pedro Conceição, 167-93. New York: Oxford University Press, 2006.
- Musgrave, Richard A. *The theory of public finance: A study in public economy*. New York: McGraw-Hill, 1959.
- Nagel, Thomas. "The problem of global justice." *Philosophy and Public Affairs* 33, no. 2 (2005): 113-47.
- Nakhooda, Smita, Taryn Fransen, Takeshi Kuramochi, Alice Caravani, Annalisa Prizzon, Noriko Shimizu, Helen Tilley, Aidy Halimanjaya, and Bryn Welham. "Mobilising international climate finance: Lessons from the fast-start finance period." Open Climate Network, 2013.
- Neumayer, Eric. "In defence of historical accountability for greenhouse gas emissions." *Ecological Economics* 33, no. 2 (2000): 185-92.
- Nisbet, Matthew C. "Communicating climate change: Why frames matter for public engagement." *Environment: Science and Policy for Sustainable Development* 51, no. 2 (2009): 12-23.
- Nordhaus, William D. *Managing the global commons: The economics of climate change*. Cambridge, MA: MIT Press, 1994.
- North, Douglass. *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press, 1990.

- OECD. "DAC statistics: Climate-related aid." Paris: OECD, 2012.
- . "Initial roadmap for improved DAC measurement and monitoring of external development finance." Paris: OECD, 2013.
- . "Is it ODA?". Paris: OECD, 2008.
- . "Measuring aid: 50 years of dac statistics - 1961-2011." Paris: OECD, 2011.
- . "New directions in DAC measurement and monitoring of external development finance." Paris: OECD, 2012.
- . "Paris declaration and Accra agenda for action." Paris: OECD, 2008.
- . "A post-2015 information system for international development and climate finance." *Background research paper submitted to the High Level Panel on the Post-2015 Development Agenda*. Paris: OECD, 2013.
- . "Statistics". 2013. Accessed 20 December 2013.
<http://www.oecd.org/statistics/>.
- Okereke, Chukwumerije. "Equity norms in global environmental governance." *Global Environmental Politics* 8, no. 3 (2008): 25-50.
- Olbrisch, Susanne, Erik Haites, Matthew Savage, Pradeep Dadhich, and Manish Kumar Shrivastava. "Estimates of incremental investment for and cost of mitigation measures in developing countries." *Climate Policy* 11, no. 3 (2011): 970-86.
- Olivier, Jos G.J., Greet Janssens-Maenhout, Marilena Muntean, and Jeroen A.H.W. Peters. "Trends in global CO₂ emissions: 2013 report." The Hague: PBL Netherlands Environmental Assessment Agency and The European Union, 2013.
- Ostrom, Elinor. *Governing the commons: The evolution of institutions for collective action*. Cambridge; New York: Cambridge University Press, 1990.
- . "Polycentric systems for coping with collective action and global environmental change." *Global Environmental Change* 20, no. 4 (2010): 550-57.
- Otañez, Martin G., Hadii M. Mamudu, and Stanton A. Glantz. "Tobacco companies' use of developing countries' economic reliance on tobacco to lobby against global tobacco control: The case of Malawi." *American Journal of Public Health* 99, no. 10 (2009): 1759-71.
- Oxford English Dictionary*. "'Aid, n.'" Oxford: Oxford University Press, 2013.
- Page, Edward A. "Intergenerational justice of what: Welfare, resources or capabilities?" *Environmental Politics* 16, no. 3 (2007): 453 – 69.
- Pan, Jiahua, and Ying Chen. "Carbon budget proposal: A framework for an equitable and sustainable international climate regime." *Social Sciences in China* 31, no. 1 (2010): 5-34.
- Panayotou, Theodore, Jeffrey D. Sachs, and Alix Peterson Zwane. "Compensation for "meaningful participation" in climate change control: A modest proposal and

- empirical analysis." *Journal of Environmental Economics and Management* 43, no. 3 (2002): 437-54.
- Peterson, Matt, and Christian Barry. "Who must pay for the damage of the global financial crisis?" In *Global financial crisis: The ethical issues*, edited by Ned Dobos, Christian Barry and Thomas Pogge, 158-84. Palgrave: Macmillan, 2011.
- Pickering, Jonathan, and Christian Barry. "On the concept of climate debt: Its moral and political value." *Critical Review of International Social and Political Philosophy* 15, no. 5 (2012): 667-85.
- Pickering, Jonathan, and Frank Jotzo. "Splitting the difference in global climate finance: Are fragmentation and legitimacy mutually exclusive?" *Centre for Climate Economics and Policy (CCEP) Working Paper 1308*, November 2013. Canberra: Australian National University, 2013.
- Pickering, Jonathan, and Dirk Rübhelke. "International cooperation on adaptation to climate change " In *Routledge handbook of the economics of climate change adaptation*, edited by Anil Markandya, Ibon Galarraga and Elisa Sainz de Murieta. Abingdon: Routledge, forthcoming (2014).
- Pickering, Jonathan, Jakob Skovgaard, Soyeun Kim, J. Timmons Roberts, David Rossati, Martin Stadelmann, and Hendrikje Reich. "Acting on climate finance pledges: Inter-agency dynamics and relationships with aid in contributor states." *Centre for Climate Economics and Policy (CCEP) Working Paper 1306*, October 2013. Canberra: Crawford School of Public Policy, The Australian National University, 2013.
- Pickering, Jonathan, Steve Vanderheiden, and Seumas Miller. "Ethical issues in the United Nations climate negotiations: A preliminary analysis of parties' positions." *CAPPE working paper*. Canberra: Centre for Applied Philosophy and Public Ethics (CAPPE), 2009.
- . "'If equity's in, we're out': Scope for fairness in the next global climate agreement." *Ethics & International Affairs* 26, no. 4 (2012): 423-43.
- Pickering, Jonathan, and Peter J. Wood. "Climate finance for developing countries." In *Climate change: Global risks, challenges and decisions*, edited by Katherine Richardson, Will Steffen, Diana Liverman, Terry Barker, Frank Jotzo, Daniel M. Kammen, Rik Leemans, Timothy M. Lenton, Mohan Munasinghe, Balgis Osman-Elasha, Hans Joachim Schellnhuber, Nicholas Stern, Coleen Vogel and Ole Wæver, 336-38 (Box 12.5). Cambridge, UK: Cambridge University Press, 2011.
- Pogge, Thomas. "'Assisting' the global poor." In *The ethics of assistance: Morality and the distant needy*, edited by Deen K Chatterjee, 260-88. Cambridge, UK: Cambridge University Press, 2004.
- . "Moral priorities for international human rights NGOs." In *Ethics in action: The ethical challenges of international human rights nongovernmental organizations*, edited by Daniel A. Bell and Jean-Marc Coicaud, 218-56. Cambridge: Cambridge University Press, 2007.

- . "Poverty, climate change, and overpopulation." *Georgia Journal of International and Comparative Law* 38 (2010): 525-42.
- . *World poverty and human rights*. Cambridge: Polity Press, 2002.
- . *World poverty and human rights*. 2nd ed. Cambridge, UK: Polity, 2008.
- Posner, Eric A., and David Weisbach. *Climate change justice*. Princeton, NJ: Princeton University Press, 2010.
- Price, Matthew E. *Rethinking asylum: History, purpose, and limits*. Cambridge, UK: Cambridge University Press, 2009.
- Rajamani, Lavanya. "The changing fortunes of differential treatment in the evolution of international environmental law." *International Affairs* 88, no. 3 (2012): 605-23.
- . *Differential treatment in international environmental law*. Oxford: Oxford University Press, 2006.
- . "The making and unmaking of the Copenhagen Accord." *International & Comparative Law Quarterly* 59, no. 3 (2010): 824-43.
- Ratner, Steven R. "Regulatory takings in institutional context: Beyond the fear of fragmented international law." *The American Journal of International Law* 102, no. 3 (2008): 475-528.
- Rawls, John. *Justice as fairness: A restatement*. Cambridge, MA: Belknap Press of Harvard University Press, 2001.
- . *The law of peoples*. Cambridge, MA: Harvard University Press, 1999.
- . *Political liberalism*. New York: Columbia University Press, 1993.
- . *A theory of justice*. revised ed. Cambridge, MA: Belknap Press of Harvard University Press, 1999.
- Raymond, Gregory A. "Problems and prospects in the study of international norms." *Mershon International Studies Review* 41, no. 2 (1997): 205-45.
- Raz, Joseph. *Practical reason and norms*. Oxford: Oxford University Press, 1999 [1975].
- Reddy, Sanjay G., and Thomas Pogge. "How not to count the poor." *Initiative for Policy Dialogue Working Paper Series*, May 2009. New York: Columbia University, 2009.
- Reus-Smit, Christian, and Duncan Snidal. "Reuniting ethics and social science: The Oxford handbook of international relations." *Ethics & International Affairs* 22, no. 3 (2008): 261-71.
- Riddell, Roger C. *Does foreign aid really work?* Oxford: Oxford University Press, 2007.
- Ringius, L., A. Torvanger, and A. Underdal. "Burden sharing and fairness principles in international climate policy." *International Environmental Agreements: Politics, Law and Economics* 2, no. 1 (2002): 1-22.

- Risse, Mathias. "How does the global order harm the poor?" *Philosophy & Public Affairs* 33, no. 4 (2005): 349-76.
- Roberts, J. Timmons, and Bradley C. Parks. *A climate of injustice: Global inequality, north-south politics, and climate policy*. Cambridge, MA: MIT Press, 2007.
- Robeyns, Ingrid. "Ideal theory in theory and practice." *Social Theory and Practice* 34, no. 3 (2008): 341-62.
- Rodrik, Dani. "Why do more open economies have bigger governments?" *Journal of Political Economy* 106, no. 5 (1998): 997-1032.
- Rogelj, Joeri, William Hare, Jason Lowe, Detlef P. van Vuuren, Keywan Riahi, Ben Matthews, Tatsuya Hanaoka, Kejun Jiang, and Malte Meinshausen. "Emission pathways consistent with a 2°C global temperature limit." *Nature Climate Change* 1, no. 8 (2011): 413-18.
- Romani, Mattia, and Nicholas Stern. "Sources of finance for climate action: Principles and options for implementation mechanisms in this decade." In *International climate finance*, edited by Erik Haites, 117-34. London: Routledge, 2013.
- Rosemberg, Anabella. "Building a just transition: The linkages between climate change and employment." *International Journal of Labour Research* 2, no. 2 (2010): 125-61.
- Rübelke, Dirk T. G. "International support of climate change policies in developing countries: Strategic, moral and fairness aspects." *Ecological Economics* 70, no. 8 (2011): 1470-80.
- Rubinstein, Jennifer. "Distribution and emergency." *Journal of Political Philosophy* 15, no. 3 (2007): 296-320.
- Russ, Peter, and Tom van Ierland. "Insights on different participation schemes to meet climate goals." *Energy Economics* 31, Supplement 2 (2009): S163-S73.
- Sachs, Noah. "Beyond the liability wall: Strengthening tort remedies in international environmental law." *UCLA Law Review* 55, no. 4 (2008): 837-904.
- Samuelsohn, Darren. "No 'pass' for developing countries in next climate treaty, says U.S. Envoy." *New York Times*, 9 December 2009.
- Sano, Yeb. "'It's time to stop this madness' – Philippines plea at UN climate talks". *Responding to Climate Change*, 13 November 2013. Accessed 20 December 2013. <http://www.rtcc.org/2013/11/11/its-time-to-stop-this-madness-philippines-plea-at-un-climate-talks/#sthash.AYtmvjQ2.dpuf>.
- Schalatek, Liane. "Democratizing climate finance governance and the public funding of climate action." *Democratization* 19, no. 5 (2012): 951-73.
- Schleiden, Sebastian, Michael C. Jungert, and Robert H. Bauer. "Mission: Impossible? On empirical-normative collaboration in ethical reasoning." *Ethical Theory and Moral Practice* (2009).
- Schmidt, Christopher J. "An international human right to keep and bear arms." *William & Mary Bill of Rights Journal* 15, no. 3 (2007): 983-1020.

- Schüssler, Rudolf. "Climate justice: A question of historic responsibility?" *Journal of Global Ethics* 7, no. 3 (2011): 261-78.
- Scott, Joanne, and Lavanya Rajamani. "EU climate change unilateralism." *European Journal of International Law* 23, no. 2 (2012): 469-94.
- Sen, Amartya. *The idea of justice*. London: Allen Lane, 2009.
- Severino, Jean-Michel, and Olivier Ray. "The end of ODA: Death and rebirth of a global public policy." *Working Paper Number 167*. Washington, D.C.: Center for Global Development, 2009.
- Shacknove, Andrew E. "Who is a refugee?" *Ethics* 95, no. 2 (1985): 274-84.
- Shaffer, Gregory, and Daniel Bodansky. "Transnationalism, unilateralism and international law." *Transnational Environmental Law* 1, no. 1 (2012): 31-41.
- Shafter, Jonathan. "The due diligence model: A new approach to the problem of odious debts." *Ethics & International Affairs* 20 no. 1 (2007): 49-67.
- Shany, Yuval. "Toward a general margin of appreciation doctrine in international law?" *European Journal of International Law* 16, no. 5 (2005): 907-40.
- Shelton, Dinah. "Equity." In *Oxford handbook of international environmental law*, edited by Daniel Bodansky, Jutta Brunnée and Ellen Hey, 640-62. Oxford: Oxford University Press, 2007.
- Shue, Henry. *Basic rights: Subsistence, affluence, and U.S. foreign policy*. 2nd ed. Princeton, NJ: Princeton University Press, 1996.
- . "Face reality? After you!—a call for leadership on climate change." *Ethics & International Affairs* 25, no. 1 (2011): 17-26.
- . "Global environment and international inequality." *International Affairs* 75, no. 3 (1999): 531-45.
- . "Human rights, climate change, and the trillionth ton." In *The ethics of global climate change*, edited by Denis G. Arnold, 292-314. Cambridge, UK: Cambridge University Press, 2011.
- . "Subsistence emissions and luxury emissions." *Law & Policy* 15, no. 1 (1993): 39-60.
- Sidgwick, Henry. *The elements of politics*. 2nd ed. London: Macmillan, 1897.
- Simmons, A. John. "Ideal and nonideal theory." *Philosophy and Public Affairs* 38, no. 1 (2010): 5-36.
- Simms, Andrew. *Ecological debt: Global warming and the wealth of nations*. 2nd ed. London: Pluto Press, 2009.
- Singer, Peter. *One world: The ethics of globalisation*. Melbourne: Text, 2002.
- Smart, JJC, and Bernard Williams. *Utilitarianism: For and against*. Cambridge: Cambridge University Press, 1973.
- Smith, K.R. "Allocating responsibility for global warming: The natural debt index." *Ambio* 20, no. 95-96 (1991).

- Smith, Lionel D. *The law of tracing*. Oxford: Clarendon Press, 1997.
- Smith, Stephen M., Jason A. Lowe, Niel H. A. Bowerman, Laila K. Gohar, Chris Huntingford, and Myles R. Allen. "Equivalence of greenhouse-gas emissions for peak temperature limits." *Nature Climate Change* 2, no. 7 (2012): 535-38.
- Soltau, Friedrich. *Fairness in international climate change law and policy*. New York: Cambridge University Press, 2009.
- South Centre. "Operationalizing the UNFCCC finance mechanism." *Research Paper 39 (May 2011)*, 2011.
- Southwood, Nicholas, and Lina Eriksson. "Norms and conventions." *Philosophical Explorations* 14, no. 2 (2011): 195-217.
- Srinivasan, U.T., S.P. Carey, E. Hallstein, P.A. Higgins, A.C. Kerr, L.E. Koteen, A.B. Smith, R. Watson, J. Harte, and R.B. Norgaard. "The debt of nations and the distribution of ecological impacts from human activities." *Proceedings of the National Academy of Sciences USA* 105, no. 5 (2008): 1768–73.
- Stadelmann, Martin, Jessica Brown, and Lena Hörnlein. "Fast-start finance: Scattered governance, information and programmes." In *Carbon markets or climate finance? Low carbon and adaptation investment choices for the developing world*, edited by Axel Michaelowa, 117-45. London: Routledge, 2012.
- Stadelmann, Martin, Axel Michaelowa, and J. Timmons Roberts. "Difficulties in accounting for private finance in international climate policy." *Climate Policy* 13, no. 5 (2013): 718-37.
- Stadelmann, Martin, J. Timmons Roberts, and Axel Michaelowa. "New and additional to what? Assessing options for baselines to assess climate finance pledges." *Climate and Development* 3, no. 3 (2011): 175-92.
- Steininger, Karl, Christian Lininger, Susanne Droege, Dominic Roser, Luke Tomlinson, and Lukas Meyer. "Justice and cost effectiveness of consumption-based versus production-based approaches in the case of unilateral climate policies." *Global Environmental Change* (forthcoming).
- Stemplowska, Zofia. "What's ideal about ideal theory?" *Social Theory and Practice* 34, no. 3 (2008): 319-40.
- Stephenson, Paule, and Jonathan Boston. "Climate change, equity and the relevance of European 'effort-sharing' for global mitigation efforts." *Climate Policy* 10, no. 1 (2010): 3-16.
- Stern, Nicholas. *A blueprint for a safer planet: How to manage climate change and create a new era of progress and prosperity*. London: Bodley Head, 2009.
- . *The economics of climate change: The Stern Review*. Cambridge, UK; New York: Cambridge University Press, 2007.
- Stevenson, Hayley. "Representing 'the peoples'? Post-neoliberal states in the international climate negotiations." *Working Paper 2011/1*. Canberra: Centre for Deliberative Democracy and Global Governance, The Australian National University, 2011.

- Stiglitz, Joseph E, and Andrew Charlton. *Fair trade for all: How trade can promote development*. Oxford: Oxford University Press, 2005.
- Stokke, Olav. *The UN and development: From aid to cooperation*. Bloomington: Indiana University Press, 2009.
- Stone, Dáithí A., and Myles R. Allen. "The end-to-end attribution problem: From emissions to impacts." *Climatic Change* 71, no. 3 (2005): 303-18.
- Sumner, Andy. "Where do the poor live?" *World Development* 40, no. 5 (2012): 865-77.
- Sumner, Andy, and Michael Tribe. "The case for aid in fiscally constrained times: Morals, ethics and economics." *Journal of International Development* 23, no. 6 (2011): 782-801.
- Sunstein, Cass R. "Incompletely theorized agreements." *Harvard Law Review* 108, no. 7 (1995): 1733-72.
- . "On the expressive function of law." *University of Pennsylvania Law Review* 144, no. 5 (1996): 2021-53.
- Swift, Adam. "The value of philosophy in nonideal circumstances." *Social Theory and Practice* 34, no. 3 (2008): 363-87.
- Swift, Adam, Gordon Marshall, Carole Buroyne, and David Routh. "Distributive justice: Does it matter what the people think?" In *Social justice and political change: Public opinion in capitalist and post-communist states*, edited by James R. Kluegel, David S. Mason and Bernd Wegener, 15-47. New York: Aldine de Gruyter, 1995.
- Tavoni, Massimo, Shoibal Chakravarty, and Robert Socolow. "Safe vs. Fair: A formidable trade-off in tackling climate change." *Sustainability* 4, no. 2 (2012): 210-26.
- Taylor, Lenore. "Cabinet rethinks Australia's backing of global green climate fund". In *The Guardian (UK)*, 18 November 2013. accessed 20 December 2013. <http://www.theguardian.com/environment/2013/nov/08/australian-ministers-rethink-green-climate-fund-commitment>.
- TERI. "Right to sustainable development: An ethical approach to climate change." New Delhi: The Energy and Resources Institute (TERI), 2009.
- Thacher, Peter S. "The role of the United Nations." In *The international politics of the environment: Actors, interests, and institutions*, edited by Andrew Hurrell and Benedict Kingsbury, 183-211. Oxford: Clarendon Press, 1992.
- Thiele, Rainer, Peter Nunnenkamp, and Axel Dreher. "Do donors target aid in line with the Millennium Development Goals? A sector perspective of aid allocation." *Review of World Economics* 143, no. 4 (2007): 596-630.
- Thompson, Janna. *Intergenerational justice: Rights and responsibilities in an intergenerational polity*. New York: Routledge, 2009.
- Thomson, Judith Jarvis. *Rights, restitution, and risk: Essays in moral theory*. Cambridge, MA; London, UK: Harvard University Press, 1986.

- Titmuss, Richard. *The gift relationship: From human blood to social policy*. London: Allen and Unwin, 1970.
- Tol, Richard S. J., and Roda Verheyen. "State responsibility and compensation for climate change damages—a legal and economic assessment." *Energy Policy* 32, no. 9 (2004): 1109-30.
- UN. "Food Assistance Convention." 2013.
- UNEP. "The emissions gap report 2013: A UNEP synthesis report." United Nations Environment Programme, 2013.
- UNFCCC. "The Cancún Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention." Decision 1/CP.16. Bonn: UNFCCC, 2011.
- . "Copenhagen Accord." FCCC/CP/2009/L.7 (18 December 2009). Bonn: UNFCCC, 2009.
- . "Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action." Decision 1/CP.17 (11 December 2011). Bonn: UNFCCC, 2012.
- . "Launching the Green Climate Fund." Decision 3/CP.17 (11 December 2011). Bonn: UNFCCC, 2012.
- . "National inventory submissions 2013." Bonn: UNFCCC, 2013.
- . "Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention." Decision 2/CP.17 (11 December 2011). Bonn: UNFCCC, 2012.
- . "Report on the workshops of the work programme on long-term finance: Note by the co-chairs." FCCC/CP/2012/3 (6 November 2012). Bonn: UNFCCC, 2012.
- . "United Nations Framework Convention on Climate Change." Bonn: UNFCCC, 1992. FCCC/INFORMAL/84 (adopted 9 May 1992; entered into force 21 March 1994).
- . "Work programme on long-term finance." Decision -/CP.19 (23 November 2013). Bonn: UNFCCC, 2013.
- . "Workshop on equitable access to sustainable development (AWG-LCA 15)". Bonn: UNFCCC, 2012. Accessed 20 December 2013.
http://unfccc.int/meetings/bonn_may_2012/workshop/6658.php.
- United Nations. "Arms trade treaty." (2013).
- . "Assessment of member states' contributions to the United Nations regular budget for 2012." 2011.
- . "Financing peacekeeping". 2013. Accessed 20 December 2013.
www.un.org/en/peacekeeping/operations/financing.shtml.
- . "International development strategy for the second United Nations development decade." 1970.

- United States. "Submission by the United States of America on long-term finance." FCCC/AWGLCA/2011/CRP.35 (27 November 2011). Bonn: UNFCCC, 2011.
- United States Department of State. "United Nations climate change conference in Durban, South Africa: Special briefing: Todd Stern, Special Envoy for Climate Change". 13 December 2011. Accessed 20 December 2013.
<http://www.state.gov/r/pa/prs/ps/2011/12/178699.htm>.
- Valentini, Laura. *Justice in a globalized world: A normative framework*. Oxford: Oxford University Press, 2011.
- . "On the apparent paradox of ideal theory." *Journal of Political Philosophy* 17, no. 3 (2009): 332-55.
- van Asselt, Harro, and Fariborz Zelli. "Connect the dots: Managing the fragmentation of global climate governance." *Environmental Economics and Policy Studies* (2013): 1-19.
- Vanderheiden, Steve. *Atmospheric justice: A political theory of climate change*. New York: Oxford University Press, 2008.
- . "Globalizing responsibility for climate change." *Ethics & International Affairs* 25, no. 1 (2011): 65-84.
- Vanheukelom, Jan, Stefano Migliorisi, Alisa Herrero Cangas, Niels Keijzer, and Eunike Spierings. "Reporting on development: ODA and financing for development." European Centre for Development Policy Management (ECDPM), 2012.
- Vernon, Richard. "States of risk: Should cosmopolitans favor their compatriots?" *Ethics & International Affairs* 21, no. 4 (2007): 451-69,398.
- Victor, David G. "Fragmented carbon markets and reluctant nations: Implications for design of effective mechanisms." In *Architectures for agreement: Addressing climate change in the post-Kyoto world*, edited by Joseph E. Aldy and Robert N. Stavins, 133-60. Cambridge, UK: Cambridge University Press, 2007.
- Voigt, Christina. "State responsibility for climate change damages." *Nordic Journal of International Law* 77, no. 1-2 (2008): 1-22.
- Wahlström, Mattias, Magnus Wennerhag, and Christopher Rootes. "Framing 'the climate issue': Patterns of participation and prognostic frames among climate summit protesters." *Global Environmental Politics* 13, no. 4 (2013): 101-22.
- Waldron, Jeremy. "Superseding historic injustice." *Ethics* 103, no. 1 (1992): 4-28.
- Walsh, Bryan. "Do rich nations owe poor ones a climate debt?" *Time*, 10 December 2009 2009.
- Walter, Stefanie. "Globalization and the welfare state: Testing the microfoundations of the compensation hypothesis." *International Studies Quarterly* 54, no. 2 (2010): 403-26.
- WBGU. "Solving the climate dilemma: The budget approach." Berlin: German Advisory Council on Global Change (WBGU), 2009.

- Weiss, Thomas G. "How United Nations ideas change history." *Review of International Studies* 36, no. S1 (2010): 3-23.
- West, J. Jason, Steven J. Smith, Raquel A. Silva, Vaishali Naik, Yuqiang Zhang, Zachariah Adelman, Meridith M. Fry, Susan Anenberg, Larry W. Horowitz, and Jean-Francois Lamarque. "Co-benefits of mitigating global greenhouse gas emissions for future air quality and human health." *Nature Climate Change* 3, no. 10 (2013): 885-89.
- Wiens, David. "Prescribing institutions without ideal theory." *Journal of Political Philosophy* 20, no. 1 (2012): 45-70.
- Winkler, Harald, Bernd Brouns, and Sivan Kartha. "Future mitigation commitments: Differentiating among non-Annex I countries." *Climate Policy* 5, no. 5 (2006): 469-86.
- Wisor, Scott. "How should INGOs allocate resources? ." *Ethics & Global Politics* 5, no. 1 (2012): 27-48.
- Woods, Ngaire. "Whose aid? Whose influence? China, emerging donors and the silent revolution in development assistance." *International Affairs* 84, no. 6 (2008): 1205-21.
- World Bank. "Development and climate change." *World Development Report 2010*. Washington, DC: World Bank, 2009.
- . "Economics of adaptation to climate change: Synthesis report." Washington, DC: World Bank, 2010.
- . "State and trends of the carbon market 2012." Washington, DC: World Bank, 2012.
- . "Turn down the heat: Why a 4°C warmer world must be avoided." *A Report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics*. Washington, DC: World Bank, 2012.
- World Health Organisation. "WHO Framework Convention on Tobacco Control." (2003).
- World Trade Organisation. "Global Agreement on Tariffs and Trade." 1994.
- WRI. "Summary of developed country 'fast-start' finance pledges (November 2012)." Washington, D.C.: World Resources Institute, 2012.
- Ypi, Lea, Robert E. Goodin, and Christian Barry. "Associative duties, global justice, and the colonies." *Philosophy and Public Affairs* 37, no. 2 (2009): 103-35.
- Zadek, Simon. "Beyond climate finance: From accountability to productivity in addressing the climate challenge." *Climate Policy* 11, no. 3 (2011): 1058-68.
- Zelli, Fariborz, and Harro van Asselt. "Introduction: The institutional fragmentation of global environmental governance: Causes, consequences, and responses." *Global Environmental Politics* 13, no. 3 (2013): 1-13.
- Zürn, Michael. "Global governance and legitimacy problems." *Government and Opposition* 39, no. 2 (2004): 260-87.