The University of Chicago

Governing Public Multilateral Climate Finance: How Earmarked Co-Financing Affects Project Allocation in the Green Climate Fund

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Abstract:

This study investigates how earmarked funding affects the allocation of public multilateral climate finance, particularly in relation to the stated "50-50" distribution goals of the Paris Agreement to equally fund mitigation and adaptation projects targeting vulnerable countries.

Using data from 208 projects funded by the Green Climate Fund (GCF) from 2014 to 2023, this study examines the influence of earmarked co-financing on project focus (mitigation, adaptation, or multiple foci) and project allocation—whether projects in more vulnerable states receive lower shares of co-financing compared to less vulnerable states. While initial findings posit strong support for the effects of earmarked co-financing on creating a mitigation bias and allocation towards moderately developed states over more vulnerable states, controlling for project size and type of funding greatly moderates earmarking's effects. Project size and financing type (public/private) emerge as important factors shaping project focus and allocation. The study highlights the complex nature of donor influence in climate finance funds and calls for further research to identify avenues of donor influence in multilateral public aid.

Keywords: Climate finance, earmarking, co-financing, Green Climate Fund, project allocation.

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Introduction:

Since the 1990s, funding of multilateral development organizations has greatly transformed as donors increasingly constrain the discretion of multilateral international development organizations (IDOs) through earmarked funding —"voluntary external assistance from donors for a multilateral agency, which is supplementary to core membership contributions and which is earmarked for specific purposes." The share of earmarked funding has increased from almost none to more than fifty percent of development aid between 1990 and 2020. This trend has significantly impacted the United Nations (UN) Development System, where earmarked funding accounted for over 79.4% of its revenue in 2017.

The modern growth of earmarking is particularly problematic as it acts as a work-around for traditional multilateral oversight where donors are able to stipulate their financing towards certain projects, certain issue-areas, and certain countries which more closely align with their own priorities. By earmarking, donors effectively "contract" the services of an IO to address the issue-areas more preferable to their own priorities over what would normally be multilaterally allocated by the IO. This increased donor influence comes at the expense of the IO, which is now "contracted" to a certain project or issue-area it may not have multilaterally financed itself through its own core funding, and now faces the dual risk of mission drift away from its goals as a result of increasing donor influence and an increasing reliance on volatile external funding sources. This growth in earmarking can be attributed in part to the modern growth of special purpose trust funds, like the Green Climate Fund (GCF) for example, which are particularly

¹ OECD. 2005. Managing Aid: Practices of DAC Member Countries. Organization for Economic Cooperation and Development, Paris. P. 125

² Heinzel, Mirko, Ben Cormier, and Bernhard Reinsberg. "Earmarked Funding and the Control–Performance Trade-Off in International Development Organizations." International Organization 77.2 (2023): 475-495.

³ Ibid.

vulnerable to donor influence. The vulnerability of special purpose trust funds stems not only from their recent establishment and need for financing but also from their significant reliance on and promotion of earmarked financing to overcome budget shortfalls in voluntary contributions, which allows donors to exert control over the allocation and use of funds. As earmarked contributions are overwhelmingly donated by wealthy countries aiming to better align multilateral finance with their foreign policy priorities, an asymmetric bargaining power dynamic between contribution-desperate climate funds and priority-differing donor countries has developed.

One key area where the effects of earmarked funding can be analyzed is though the multilateral climate finance initiatives established under the Paris Climate Agreement and the subsequent international climate finance funds that developed from the agreement. The Paris Agreement put forth a "50-50" allocation framework directing an equal share of climate finance towards adaptation and mitigation projects which particularly target the globe's most vulnerable countries. Current estimates, however, find that over 90% of multilateral climate finance is channeled toward mitigation, revealing a sizeable discrepancy from the intended goal. This paper argues that earmarking, by acting as a conduit for increased donor influence in special purpose climate funds, impacts climate finance allocation towards mitigation over adaptation as donor states prefer the global benefits of mitigation projects over the local benefits of adaptation projects. Similarly, I argue that the current parabolic distribution of climate finance along a state's degree of vulnerability, where moderately vulnerable states receive the largest majority of climate financing and which leaves the most vulnerable states receiving comparatively low levels

⁴ Islam, Md Mofakkarul. "Distributive justice in global climate finance–Recipients' climate vulnerability and the allocation of climate funds." Global Environmental Change 73 (2022): 102475.

⁵ Berman, Noah, and Clara Fong. "Climate Finance Gains Momentum Ahead of COP28." Council on Foreign Relations, October 2023.

of climate financing can also be attributed to effects of increased donor influence from earmarking. This is because donors earmark their contributions to projects in states with greater institutional capacity that are able to secure greater economic, environmental, and social returns to donor contributions and priorities. This effect is further exacerbated because the share of earmarking of a project is an active determining factor in many climate funds for which projects are ultimately selected and because developed and emerging states generally have greater leverage to offer greater shares of earmarked co-financing compared to low-income states.

These imbalances suggest issues within the allocation process of public multilateral climate fund and possible overt donor influence into multilateral distribution decisions. This paper argues that because (1) earmarking empowers donor states at the expense of recipient states and because (2) donor states have diverging allocation preferences compared to recipient states, projects with more earmarking will exhibit more donor preferences—namely, a mitigation bent and a greater allocation towards moderately vulnerable states over more vulnerable ones. I hypothesize earmarking, which is mostly donated by wealthy donor countries hoping to align multilateral finance with their own foreign policy priorities, 8 as the key explanatory factor driving the imbalance between mitigation and adaptation as well as allocation disparities based on vulnerability. This study seeks to identify how earmarking shapes climate finance allocation within the Green Climate Fund to inform policy discussions on correcting imbalances under the "50-50" framework and improve the egalitarian nature of climate finance

⁶ Garschagen, Matthias, and Deepal Doshi. "Does funds-based adaptation finance reach the most vulnerable countries?." Global Environmental Change 73 (2022): 102450; Islam "Distributive Justice", 2023

⁷ GCF (2019). Policy on co-financing. Decision B.24/14

⁸ Graham, Erin R., and Alexandria Serdaru. "Power, control, and the logic of substitution in institutional design: The case of international climate finance." International Organization 74.4 (2020): 671-706

distribution. This study theorizes that the asymmetric bargaining power resulting from earmarking between contribution-desperate climate funds and priority-differing donor countries is a likely driver of both the imbalance between adaptation and mitigation funding as well as the decreased share of financing allocated towards the most vulnerable developing states, despite "50:50" split directives and stated goals of climate financial institutions.

By studying the unintended consequences of earmarked co-financing in the GCF on its stated allocation goals, this study seeks to improve the allocation and effectiveness of projects that are implemented by the GCF, with the results of this study applying more generally to all development trust funds that utilize earmarked co-financing to augment their core-funds. If the hypotheses of this study do in fact hold true, then reorienting GCF's policy on earmarked co-financing— as a modern financing phenomenon which can be said to have simultaneously advanced and detracted from achieving the Paris Agreement climate finance goals— will become critical. If the hypotheses do not hold true, however, then deeper engagement with other potential reasons for GCF's mission drift and allocation discrepancies, like other institutional barriers for vulnerable states to access GCF funding, should be explored.

1: Literature Review:

1.1 Donor Influence over Special Purpose Trust Funds

Until the early nineties, donor governments provided foreign aid through either core contributions to multilateral organizations or by implementing their own projects through their own domestic bilateral aid agency. In recent years, however, global special purpose trust funds—funds which act outside established multilaterals like the World Bank and the UN

⁹ Eichenauer, Vera Z., and Simon Hug. "The politics of special purpose trust funds." *Economics & Politics* 30, no. 2 (2018): 211-255.

Development System, but which sometimes contract the former organizations as implementing agencies for their projects—have "exploded" in number. ¹⁰ Reinsberg (2017) argues that the growth and "popularity" of these multilateral funds is a result of the increased opportunities these funds provide for greater donor influence— defined as the "capacity of the donors to alter the behavior of other donors and multilateral agencies according to their own priorities." ¹¹

This rapid growth in the number of global trust funds has primarily resulted in more influence accorded to wealthy states who have greater capacity and resources to influence the operations of these international organizations; in contrast, smaller and less wealthy states must now split their resources, attention, and delegations across an increasing number of trust funds to apply for and access increasingly fragmented development aid. ¹² Concerns around donor influence in trust funds are "widespread" as donors have an opportunity to circumvent true multilateral oversight through donations to special purpose trust funds in order to advance their own priorities, "leaving multilateral agencies in the role of mere implementers of bilateral priorities." ¹³ It becomes important, then, to fully comprehend who and how state influence affects both the day-to-day operation of these funds as well their institutional design.

Eichanauer and Reinsberg conceptualize state influence directed at trust funds in four ways: unilateral influence, collective influence, inter-agency competition, and forum-shopping.¹⁴

¹⁰ Ibid.

¹¹ Eichenauer, Vera Z., and Bernhard Reinsberg. "What determines earmarked funding to international development organizations? Evidence from the new multi-bi aid data." *The Review of International Organizations* 12 (2017): 171-197.

¹² Cox, Robert W., Harold Karan Jacobson, Gerard Curzon, Victoria Curzon-Price, Joseph S. Nye, Lawrence Scheinman, James Patrick Sewell, and Susan Strange. *The anatomy of influence: decision making in international organization*. New Haven, CT: Yale University Press, 1973.

¹³ Browne, Stephen, and Thomas G. Weiss. "Emerging powers and the UN development system: canvassing global views." *Third World Quarterly* 35, no. 10 (2014): 1894-1910.; Eichenauer and Reinsberg, "What determines earmarked aid", 2017; UN. (2012). *Analysis of funding of operational activities for development of the United Nations system for the year 2010*. New York: Report of the Secretary General. UN Department of Economic and Social Affairs.

¹⁴ Eichenauer and Reinsberg, "What determines earmarked aid", 2017

Unilateral influence can be defined as the "attempt of one state to compel the behavior of other states (i.e. peer donors states or recipient countries) by using international organizations as a channel of influence." ¹⁵ One example of unilateral influence through international organizations is growing evidence that states with close political ties to the United States receive more favorable treatment from organizations like the International Monetary Fund and the World Bank. 16 In contrast, collective influence refers to the changing of the behavior or stance of the international organization itself as a result of external influence. The use of earmarking within trusts funds, for example, acts as a mechanism for collective influence from which donors "advance certain issue areas that not all donors perceive as a priority and hence are not willing to support through core contributions."¹⁷

Both collective and unilateral forms of influence can be bucketed together as "intraorganizational strategies" to influence trust funds since these strategies originate from within the organization. The latter two forms of influence over international organizations, forum-shopping and inter-agency competition, in contrast, utilize strategies external to the international organization that a state is trying to influence to direct the behavior of the organization with "regime-level strategies" rather than "intra-organizational strategies." Forum-shopping for example, as a regime-level strategy, is defined as when states utilize their simultaneous membership in various international organizations with similar policy focuses to "shop" around for the best offer or deal, both in the case of recipient states seeking out the best or more comprehensive aid package but also in terms of donors seeking the greater influence, control, or

¹⁵ Ibid.

¹⁶ Steinwand, Martin C., and Randall W. Stone. "The International Monetary Fund: A review of the recent evidence." The Review of International Organizations 3 (2008): 123-149.

¹⁷ Eichenauer and Reinsberg, "What determines earmarked aid", 2017

¹⁸ Ibid.

outcomes for their donation.¹⁹

Inter-agency competition is similar to forum-shopping as a regime-level strategy but is "more directly aimed at altering the policies of legacy institutions." Inter-agency competition, put differently, is the direct agency-to-agency competition for donations, interest, and influence that results from collective action problems (i.e. political stalemate, urgency of certain challenges, legitimacy concerns) originating from within the "legacy institutions" from which other agencies were birthed from. One key example of this is the Global Fund to Fight Aids, Tuberculosis and Malaria, which was created both as an alternate to and a way to influence the policy direction of the World Health Organization (WHO), leading some scholars to criticize these funds as a form of "trojan multilateralism." By earmarking their donations to the global fund over the WHO and thus reducing the policy discretion of the fund, donors were able to not only reduce the policy discretion available to the global fund but also, in fact, to the WHO as both agencies began to directly compete against each other for donations and influence. 22

More applicable to this paper's focus, the Global Environmental Facility (GEF) became the first entity to be established outside established institutions like the World Bank due to "the loss of confidence in the capacity of those institutions to address the need in question." Donors to the GEF wanted to avoid a solution too similar to the World Bank "because [the Bank] had a bad record on environmental protection and because of fears that the Bank would use GEF resources to boost its own lending agency," meaning that donors established an entirely new

¹⁹ Reinsberg, Bernhard. "Trust funds as a lever of influence at international development organizations." *Global Policy* 8 (2017): 85-95.

²⁰ Ibid.

²¹ Sridhar, Devi, and Ngaire Woods. "Trojan multilateralism: global cooperation in health." *Global Policy* 4, no. 4 (2013): 325-335.

²² Ibid.

²³ Smyth, Sophie, and Anna Triponel. "Funding global health." *Health & Hum. Rts.* 15 (2013): 58.

institution outside of the institutional framework of existing organizations to increase their own influence and to "do things differently."²⁴

The creation of Green Climate Fund, the focus of this paper's study, is similar to the GEF, as it was created and mobilized in part due to more contemporary dissatisfaction over the GEF and its continued linkages with the World Bank. ²⁵ The creation and funding of new trust funds over existing organizations reveals that donors intentionally chose which international organizations to donate to strategically, and that they do so to avoid too much policy autonomy in any one international organization and to direct the policy focus into certain scopes or areas. ²⁶ Urpelainen and van de Graaf (2015), in fact, argue that it is the result of dissatisfied "challenger states" which create overlapping institutions in order to overcome instances when institutions have been captured by interests opposed to the challenger state, suggesting that the creation of new international organizations are the result of preference differences between states/donors and not necessarily to fill gaps in international cooperation. ²⁷ The inequitable effects of the creation of new policy-constrained trust funds are exacerbated by the fact that creating new institutions is usually a path only available to wealthier states as doing so "requires well-staffed diplomatic missions to set the agenda across different international policy-making venues." ²⁸

To sum, intra-organizational influence strategies like earmarking and unilateral singledonor control in international organizations seek to directly affect agency resources, which happens in the short-term and affects the actual practices and impacts of these organizations. In

²⁴ Ibid.

²⁵ Reinsberg."Trust funds as a lever of influence at international development organizations." 2017.

²⁶ Ibid.

²⁷ Urpelainen, Johannes, and Thijs Van de Graaf. "Your place or mine? Institutional capture and the creation of overlapping international institutions." *British Journal of Political Science* 45, no. 4 (2015): 799-827.

²⁸ Eichenauer and Reinsberg, "What determines earmarked aid", 2017

contrast, regime-level strategies "indirectly" affect international organizations by shaping a competitive environment for the agency that a state wishes to influence, which takes longer and involves institutional redesign to influence change.²⁹ These forms of state influence exercised by both donor and recipient states over international organizations are diagramed in Table 1.

Table 1: Systematic Overview of State Influence on International Organizations				
	Intra-organization strategies	Regime-level strategies		
Unilateral Influence	Unilateral donor influence within international organizations (ex. single-donor/private trust funds like the Gates Foundation, majority shareholder control in IOs like the IMF)	Forum-shopping from both (mostly) donor and (also) recipient states (ex. creating an overlapping new institution/reforming institutional design)		
Collective Influence	Collective control mechanisms within international organizations (ex. earmarked aid, agency oversight)	Inter-agency competition (choosing to apply for project funding at/donating to the GCF over the GEF)		

Source: (Reinsberg 2017)

Special purpose trust funds, especially those that are newly established, are highly susceptible to donor influence: this vulnerability stems not only from their recent creation and need for financing but also because of their significant reliance on and promotion of earmarked financing, which allows donors to exert control over the allocation and use of funds. The widespread acceptance and encouragement of earmarked financing within these organizations further amplifies the potential for donor influence, as it provides multiple channels through which donors can shape the priorities and activities of these funds. While previous research has focused on the ability that donors have to pressure policy change through the "power of the purse"—donors limiting the amount of their contributions— more recent contributions have increasingly focused on the effects of the *composition* of the funding, either through earmarked

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²⁹ Ibid.

aid, public/private "blended finance," or debt-based development aid. 30 This paper will build upon previous research on donor influence in international organizations by specifically exploring a growing form of collective influence within one special purpose trust fund called the Green Climate Fund—earmarking.

1.2: Earmarked Aid and Donor Influence in Climate Funds

The Organization for Economic Co-operation and Development (OECD) categorizes earmarked aid as "bilateral aid through multilateral organizations," or with commonly used terms like "bi-multi aid" or "directed multilateral contribution." The overall effect of earmarking is that it constitutes a "hybrid aid allocation channel" that blends characteristics of both multilateral and bilateral aid without necessarily being either. Because earmarked funds are not formally part of IOs' budgets, these funds are accordingly not subject to full multilateral oversight and are commonly referred to as "extrabudgetary resources." Earmarking's "extrabudgetary" nature has drawn many critics against earmarking, as donors can attach conditions that limit the autonomy of multilateral organizations while the donors themselves benefit from the technical and coordinating abilities of the IO. 34

Despite these concerns, research on earmarking remains vastly underdeveloped, with

³⁰ Heinzel et.al. "Earmarked Funding and the Control–Performance Trade-Off", 2023; Bracking, Sarah, and Benjamin Leffel. "Climate finance governance: Fit for purpose?." Wiley Interdisciplinary Reviews: Climate Change 12.4 (2021): 709.

³¹ Heinzel et.al. "Earmarked Funding and the Control–Performance Trade-Off", 2023 ³² Ibid.

Weinlich, Silke, Max-Otto Baumann, Erik Lundsgaarde, and Peter Wolff. Earmarking in the multilateral development system: Many shades of grey. No. 101. Studies, 2020.

³⁴ Graham and Serdaru. "Power, control, and the logic of substitution in institutional design". 2020; Lall, R. (2017). Beyond Institutional Design: Explaining the Performance of International Organizations. International Organization, 71(2), 245-280. doi:10.1017/S0020818317000066 OECD. 2005. Managing Aid: Practices of DAC Member Countries. Organization for Economic Cooperation and Development, Paris.; Weinlich et.al., "Earmarking in the multilateral development system", 2020; Heinzel et.al. "Earmarked Funding and the Control–Performance Trade-Off", 2023

most research concentrated in the hands of a few researchers and conducted only within the past decade. One pinnacle study, however, is Eichenauer and Reinsberg 2017, which used data from over 290 multilateral institutions from 1990 to 2012 covering over 100,000 earmarked projects to find that earmarked aid and bilateral aid is allocated in remarkably similar ways, with both earmarked aid and bilateral aid seeming to target the very same recipients in direct contrast to project allocation originating from multilateral aid. Eichenauer and Reinsberg further theorize that some donors use earmarked aid specifically as a way to bypass having to donate to recipient countries with weak institutions or weak governance and ensure their preferred (global) outcomes. Another key study is Heinzel et.al 2023, which identified a "control-performance tradeoff" in both the World Bank and several regional development banks, finding that earmarked projects had undermined both cost-effectiveness and project performance relative to core-funded projects. Heinzel's finding identifies an important paradox, where earmarking has complemented and increased the total development funding given, and should therefore provide better outcomes, but which core-funded projects have outperformed projects with earmarked aid.

Principal-agent theory provides a framework from which to better understand this paradox and the dynamics between earmarking from donors and multilateral projects: Principal agent theory, in fact, holds that principals need to use collective control mechanisms, like earmarked funding, to avoid agency slack and slippage, ensuring that agents (i.e. climate funds) perform their tasks within their mandate.³⁸ When donors delegate to development organizations through traditional un-earmarked core contributions, donors surrender control over how their money is spent. But by delegating to development organizations through earmarked funding,

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³⁵ Eichenauer and Reinsberg, "What determines earmarked aid", 2017

³⁶ Ibid

³⁷ Heinzel et.al. "Earmarked Funding and the Control–Performance Trade-Off", 2023

³⁸ Ibid.

donors circumvent this tradeoff and gain from the specialized workforces of development organizations without surrendering control over how their money is spent.³⁹ Simultaneously, however, earmarked funding compromises the directive of climate funds as donors attach conditions that limit the IO's autonomy, which (1) increases transaction costs for both donors and multilateral organizations, (2) leads to aid fragmentation and mission drift, and (3) endangers the multilateral assets of organizations as donors influence climate fund prioritizes and burden staff with having to cater to non-predictable funding sources.⁴⁰ While earmarking allows donors to utilize agency expertise, the practice can strain organizational autonomy; principal-agent theory suggests that donors earmark to exercise control without fully ceding discretion over spending, though this comes at the cost of increased transaction costs, potential mission drift, and unpredictable budgeting for the agency.

Previous research has theorized a "logic of substitution" in which permissive earmarking rules serve as a "design substitute" for powerful member states to exert control within international organizations (IOs) that have egalitarian "one country, one vote" governance structures, unlike the weighted shareholder voting typical of multilateral development banks; this suggests that wealthier donor countries use funding conditions to drive outcomes even when developing member states hold equal voting rights on paper. In this way, wealthy donor states "substitute" and "shop" for varying institutional design rules to maintain control (i.e. exchanging weighted voting rules with permissive earmark rules in organizations with "one-country one-vote" voting rules to maintain their asymmetric control), suggesting that "powerful donors can exert control over resource allocation even when developing states appear to hold equal

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³⁹ Ibid.

⁴⁰ Weinlich et.al., "Earmarking in the multilateral development system", 2020

⁴¹ Graham and Serdaru, "Power, control, and the logic of substitution in institutional design", 2020

influence on governing bodies."⁴² Of the eighteen climate funds that existed in 2020, when both voting and funding rules are considered, asymmetric power between wealthier states and developing states is reflected in the asymmetric donor control of seventeen of the eighteen climate funds.⁴³

The rise of earmarking has become a particularly prevalent problem in that a majority of earmarking is donated by a select few of the wealthiest countries. Earmarking has risen as major donor countries - namely the United States, Germany, the United Kingdom, Japan, and Norway – aim to exert greater control over multilateral spending, with just these top five contributors providing 59% of all earmarked funding in 2017. ⁴⁴ In contrast, in 2017, developing countries contributed \$2.7 billion, or nearly 10 percent, to the overall \$26.6 billion in earmarked contributions for humanitarian and development activities at the UNDS. Of this, \$1.8 billion were local resources used to finance projects within their own borders. ⁴⁵

Earmarking has come to be immensely beneficial for wealthy donor countries who wish to exert influence in the climate finance sector, where allocation preferences between developed and developing countries are distinctly opposed. Assuming that donor countries earmark their donations to multilateral organizations if their interests are either not aligned with (1) the voting majority in the governing board or (2) the profile or mandate of the respective organization, earmarking has become an avenue for donor countries to circumvent both voting majority and climate fund mandates.⁴⁶

For multilateral international climate finance, earmarking becomes particularly

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Weinlich et.al., "Earmarking in the multilateral development system", 2020

⁴⁵ Ibid.

⁴⁶ Ibid.

problematic because of the distinct preferences between developing states which prefer local-benefitting adaptation projects and developed states which prefer more "bankable" (i.e. profit creating) and global-benefiting mitigation projects (i.e. projects like renewable energy developments that potentially provide global economic and environmental investment returns to the donor). ⁴⁷ These preference differences exist because while mitigation can be said to provide a "global public good with its benefits dispersed globally and experience over long-time scales," adaptation provides "local benefits over a shorter time span" that are less "bankable."

Donor states have been found to distinctly prioritize mitigation projects that they themselves ultimately benefit from as a result of reduced global emissions, whereas recipient countries have increasingly pushed for locally benefitting adaptation projects as a form of climate reparations that prioritizes their own national priorities over global efficiency. ⁴⁹ These differences mean that who controls the allocation of climate finance *matters*, and that resource allocation is likely to look drastically different if developing states were to control climate finance distribution. These developed versus developing country preference differences importantly fit into a larger disagreement over climate finance as status quo development aid versus climate finance as a "new and additional" form of development aid, with developed states arguing that climate finance should be "mainstreamed into development activities...to support efficient and effective finance delivery" ⁵⁰

But because donors prefer more "bankable" projects, donors earmark their contributions

⁴⁷ Graham and Serdaru, "Power, control, and the logic of substitution in institutional design", 2020 ⁴⁸ Watkiss, Paul, Magnus Benzie, and Richard JT Klein. "The complementarity and comparability of climate change adaptation and mitigation." *Wiley Interdisciplinary Reviews: Climate Change* 6, no. 6 (2015): 541-557.

⁴⁹ Graham and Serdaru, "Power, control, and the logic of substitution in institutional design", 2020 ⁵⁰ Bailer, Stefanie, and Florian Weiler. "A political economy of positions in climate change negotiations: Economic, structural, domestic, and strategic explanations." *The Review of International Organizations* 10 (2015): 43-66.

to projects in states with greater institutional capacity that are able to secure greater economic, environmental, and social returns to donor contributions. Put differently, the institutional capacity and bureaucratic fitness of a country appears to be "a major factor" in how climate finance is allocated and has been theorized as the reason for the parabolic relationship between state vulnerability and climate finance allocation where moderately vulnerable states received the most funding. 51 The frequent overlap between states with the worst institutional capacity and highest vulnerability means that a "hard-to-reach" group of countries, mostly Least Developed Countries (LDCs) in Africa, that should have received adaptation funding have not yet even received even the precursor readiness funding for actual projects.⁵² This effect is further exacerbated because the share of earmarking of a project is an active determining factor in many climate funds for which projects are ultimately selected and because developed and emerging states generally have greater leverage to offer greater shares of earmarked co-financing compared to low-income states.⁵³ In effect, this paper argues that the growth of and modern dependency on earmarking has further de-prioritized climate funding allocation to these most vulnerable states and has played an active role in shaping these outcomes.

While it is important to note that the stated "50:50" allocation goals of the Paris

Agreement have been debated and argued against, with some arguing that greater allocation
towards mitigation projects over adaptation is the best or most efficient use of climate financing,
this paper will not argue over what might be the best allocation distribution.⁵⁴ Instead, this paper

⁵¹ Garschagen, Matthias, and Deepal Doshi. "Does funds-based adaptation finance reach the most vulnerable countries?." Global Environmental Change 73 (2022): 102450.

⁵² Ibid.

⁵³ GCF (2019). Policy on co-financing. Decision B.24/14

⁵⁴ Brechin, Steven R., and Maria I. Espinoza. "A case for further refinement of the Green Climate Fund's 50: 50 ratio climate change mitigation and adaptation allocation framework: toward a more targeted approach." *Climatic change* 142 (2017): 311-320.

will focus on investigating a potential mechanism— earmarking— that could explain why climate funds are missing their stated distribution goals.

4: Theoretical Framework:

This paper theorizes firstly that earmarking itself acts a conduit that empowers donor countries at the expense of IOs and recipient-state priorities. Earmarking empowers donors as it allows donors to bypass traditional multilateral oversight in solely core-funded projects to target or stipulate their financing towards certain sectors, issue-areas, or countries more preferable to the donor's priorities and not that of the multilateral organization. By doing so, donors effectively "contract" the services of an IO to address the issue-areas more preferable to their own priorities over what would normally be multilaterally allocated by the IO. This increased donor influence comes at the expense of the IO, which is now "contracted" to a certain project or issue-area it may not have multilaterally financed itself through its own core funding, and now faces the dual risk of mission drift away from its goals as a result of increasing donor influence and an increasing reliance on volatile external funding sources. Increased donor influence in climate financial institutions also comes at the expense of the recipient country, which is now is receiving financing which has not been multilaterally allocated and which brings along "stringsattached" requirements for the project imposed by the donor which can diverge from recipient state interests.

Because of this, I also theorize that donor countries have explicitly diverging preferences for climate investments relative to those of IOs and developing country priorities: namely, that donor countries prefer mitigation projects over adaptation projects and in financing projects in moderately vulnerable emerging states over more vulnerable states. Donor countries prefer mitigation projects over adaptation projects because mitigation projects result in global

environmental benefits through reduced greenhouse gas emissions, whereas adaptation benefits are much more local to the state or region the project is implemented in with usually few if any global benefits. Mitigation projects are also much more "bankable" and can be profit driving for donors providing loans, whereas most adaptation projects provide little to no returns to foreign donors. Because of these diverging preferences between donor and recipient states, IOs have traditionally moderated and compromised to satisfy both parties, reaching agreements to split funding "50-50" between mitigation and adaptation. Through earmarking, however, donors have been able to develop a mitigation bias in modern-day climate finance allocation in IOs.

These preference variations between developed and developing states, as well as the underlying "logic of substitution" of earmarked funding rules in institutional design that Graham et.al. (2020) reveals, empower continued asymmetric control by wealthy states in international climate funds. Asymmetric control by donor states through earmarking in supposedly egalitarian and multilateral international climate funds has opened up room for a mitigation bias in aid allocation and for a preference towards more "bankable" projects allocated in moderately vulnerable states. This asymmetric control, I theorize, can be attributed to earmarking as it creates "a vast array of unstructured interactions and institutional bargaining," where donors and IOs negotiate individually with the weaker donation-hungry side (i.e. IOs) typically having to compromise more often than the powerful side (i.e. donor countries) who controls resources. ⁵⁵
This paper hypothesizes that it is this asymmetric power bargaining that occurs through earmarking as the reason why a mitigation bias and moderate-vulnerability relationship exists in multilaterally allocated climate finance, despite stated directives and mission statements calling for a "50-50" split which targets the globe's most vulnerable countries.

⁵⁵ Weinlich et.al., "Earmarking in the multilateral development system", 2020

This study adds to the existing literature review critiquing conventional "rogue-agency" analysis that holds deviant behavior by IO officials as the reason for ineffective institutional performance and divergence from an agency's mission or stated goals. 56 Instead, following Lall 2017, this study attributes ineffective institutional performance to the propensity of states to use IOs, particularly climate funds, to promote their own narrow national interests rather than an IOs broader organizational objectives. Put differently, I hold that the greater the degree of policy autonomy enjoyed by a climate fund and the more isolated an IO is from donor influence, the closer those projects will be towards their "50-50" allocation goals targeting the most vulnerable countries. Similar to Graham et. al. 2020 and Lall 2017, this paper argues that analyzing de jure policy autonomy is insufficient and that deeper engagement with de facto policy autonomy such as through the study of "unstructured" earmarking bargaining provides a more complete picture of how power plays out in climate financial institutions. 57 With recent research confirming that earmarked funding undermines both cost-effectiveness and project performance across international development organizations, studying the material and distributive consequences of earmarked funding is of crucial significance not only for IOs but also donors who seek the most value of their donation.⁵⁸

Because (1) earmarking empowers donor states at the expense of recipient states and because (2) donor states have diverging allocation preferences compared to recipient states, I argue that projects with more earmarking will exhibit more donor preferences— a mitigation bent and a greater allocation towards moderately vulnerable states over more vulnerable ones. Crucially, evidence currently suggests that a "low funding trap" exists for the world's most

⁵⁶ Lall, "Beyond Institutional Design", 2020

⁵⁷ Graham and Serdaru, "Power, control, and the logic of substitution in institutional design", 2020; Lall, "Beyond Institutional Design", 2020

⁵⁸ Heinzel et.al. "Earmarked Funding and the Control-Performance Trade-Off", 2023

vulnerable states that are unable to access climate finance, as most climate financing is currently allocated to moderately vulnerable states.⁵⁹ Because vulnerability is persistent and because past funding has significant effects on current funding, this results in a "low funding trap" where the most vulnerable states remain stuck in their climatic vulnerability. ⁶⁰ Similarly, another study identified that many countries with the highest climate vulnerability but weak government institutions and fragile state bureaucracies—mostly least developed countries (LDCs) in Africa and conflict-ridden countries— have subsequently "missed out" on accessing project funding from climate funds. 61 This paper hypothesizes that earmarking from wealthy and emerging donor countries, who again prefer more "bankable" projects with usually greater reporting and accountability requirements attributed to less vulnerable states, explains the parabolic distribution of aid in multilateral climate funds along a country's degree of vulnerability. This effect, this paper hypothesizes, is further exacerbated because developed and emerging countries are able to leverage greater shares of earmarked co-financing compared to lower income states, meaning that the project proposals with lower shares of earmarking are less likely to be accepted by an climate fund as the total potential amount of earmarked co-financing is an important determinant for how climate funds choose which projects to fund and should, according to GCF policy, be sought "whenever possible." Because of this, I posit the following hypothesis:

H1: Projects in more vulnerable states will have lower shares of earmarked co-financing compared to projects in less vulnerable states.

⁵⁹ Islam, "Distributive justice in global climate finance" (2022)

⁶⁰ Ibid.

⁶¹ Garschagen and Doshi. "Does funds-based adaptation finance reach the most vulnerable countries?." 2022

⁶² GCF (2019). Policy on co-financing. Decision B.24/14

Because of the stark preference divergence between donor states, which prefer "bankable" mitigation projects, and recipient states' preferences for local-benefitting adaptation projects, I hypothesize earmarking as the avenue from which climate funds are missing their stated "50-50" distribution targets. Similar to climate financing allocated from multilateral development banks—where wealthy countries dominate decision-making due to shareholder voting rules and where a majority of financing is allocated to mitigation projects in relatively wealthier countries—this paper expects a similar logic of donor-control to result in earmarked projects in multilateral climate funds to also cater to mostly mitigation projects. ⁶³

H2: Projects with greater shares of earmarked co-financing are more likely to be focused on mitigation or multiple foci than adaptation.

5. Research Design:

To test these hypotheses, this study uses data on 202 projects implemented by the GCF from its initial resource mobilization in 2014-2019 (GCF- IRM) to the end of climate finance fund's first replenishment cycle (GCF-1) in 2019-2023. This study focuses on the GCF—a UNbacked climate finance fund with egalitarian "one-country one-vote" rules but which also permits donor influence through earmarked co-financing—because of the fund's role as the largest and most principal climate fund accountable to the stated "50-50" goals of COP and the Paris Agreement. The unit of analysis for this study is the individual project financed by the GCF. Utilizing publicly available project-level data from the Climate Funds Update, ⁶⁴ an independent monitoring initiative tracking financed projects from major multilateral climate

⁶³ Xie, Lina, Bert Scholtens, and Swarnodeep Homroy. "Rebalancing climate finance: Analysing multilateral development banks' allocation practices." Energy Research & Social Science 101 (2023): 103127.

⁶⁴ Climate Funds Update. 2023. https://climatefundsupdate.org/.

funds, this study will utilize a quantitative analysis of publicly available data to evaluate this paper's hypothesized connections between earmark funding and allocation biases towards mitigation and moderately vulnerable countries. The Climate Funds Update dataset was chosen at it provides the most comprehensive project-level information and encompasses all 208 projects that have been funded by the GCF.

5.1: Dependent Variables:

A binary measure indicating whether a project focuses on mitigation, adaptation, or an overlap of the two, which the GCF labels as "multiple foci" is constructed. No clear definition or threshold, however, exists for multiple foci projects, leading to criticism that multiple foci projects act as a cover to lessen the amount of adaptation funding to developing states. One study, for example, surveyed states and organizations who had submitted project proposals to the GCF, with 84% of respondents agreeing that the "secondary aspect of their project was important to its chances of being approved," with one respondent even stating that "adaptation has become important to the political agenda," suggesting that applying for GCF funding by including adaptation measures into the project proposal stands to improve a project's probability of being approved. Because of the existing mitigation bias in climate funds towards mitigation and because of concerns over the ambiguity of multiple foci projects, this study constructs a new variable that codes a dummy variable as one if a project is either mitigation or multiple foci (i.e. any project that has any form of mitigation focus) and codes zero if the project is solely adaptation-focused.

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⁶⁵ GCF Insight: Cross-cutting projects and the mitigation-adaptation ..., accessed April 5, 2024, https://www.ecoltdgroup.com/wp-content/uploads/2016/12/E-Co-GCF-insight-16-4-v1.pdf.

5.2: Independent Variables:

To identify earmarked co-financed GCF projects, this study utilizes additional data from the Green Climate Fund's documents archive and specifically the project funding proposal document for each project to identify the share of earmarked co-financing, defined as the financing that is not originating from core-GCF funds and is earmarked solely for a specific project by various bilateral donors ranging from governments, the private sector, and NGO organizations. By manually coding the share of earmarking per project as the key independent and continuous variable into this study's dataset, this paper creates a new dataset collecting the share of earmarking for all currently GCF-funded projects.

This study then includes a continuous variable scoring the vulnerability level of the recipient country based on its ND-GAIN vulnerability index score. This study uses the ND-GAIN vulnerability index score for as it is the premier annual index that assesses not only a country's current vulnerability to climate disruptions, but also assesses a country's readiness to leverage private and public sector investment for adaptive actions. The ND-GAIN vulnerability index, by merging and accounting both vulnerability and state readiness in the context of adaptation, provides a more comprehensive perspective for understanding GCF project allocation relative to other state vulnerability measures. For projects spanning multiple countries or with a regional focus, the average NG-GAIN vulnerability index score is computed when possible—as the GCF states that an equal amount of funding is allocated to each listed country under a project. Since a few countries lack sufficient data to calculate an average ND-GAIN vulnerability index or are simply labeled "global" projects without a corresponding country

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⁶⁸ Ibid.

⁶⁶ GCF. (2023). Approved projects. https://www.greenclimate.fund/projects.

⁶⁷ Chen, Chen, Ian Noble, Jessica Hellmann, Joyce Coffee, Martin Murillo, and Nitesh Chawla.

[&]quot;University of Notre Dame global adaptation index." *University of Notre Dame* (2023).

designation, 17 projects were removed from the dataset, leaving my dataset with 191 projects from the original 208.

5.3: Control Variables:

From these same funding proposal documents, this study also manually codes the number of co-financers per project and the total amount co-financed per project as other potential key variables to study. Control variables, such as GCF project size categories (micro, small, medium, large), type of financing (public, private), and time period (GCF- initial resource mobilization or GCF-1 in the first resource mobilization) were added to the regression models. Project size is included as a control variable because share of co-financing and project size hold a "highly correlated" coefficient of .702, meaning that as project size increases, the share of co-financing also increases. Type of financing is included as a potential control variable to account for potential confounding variables where a type of financing may influence the share of co-financing or focus of a project. Time period is also included to potentially account for differences between the GCF's earlier project investments (2015-2019) and its more recent slate of investments (2019-2023).

5.4: Methodology

The analysis utilizes several multivariate regression models to estimate differences between earmarked and core-funded projects across the two dependent variables. To test hypothesis two, logistic regression models rather than linear models were fit separately because the outcome dependent variable is binary rather than continuous. Dummy variables for theme/objective, project size categories (micro, small, medium, large), type of financing (public, private), and the time period it was implemented in (GCF-IRM or initial resource mobilization or

GCF-1 in the first resource mobilization) were created. Through these dummy variables, the models are able to include control variables for project size category, type of financing, and time period. Additional robustness checks were conducted using mitigation, not both mitigation and multiple foci, as the sole dependent variable (Appendix 1 and another robustness check excluding multiple foci projects from the regression (Appendix 2). These models were used to assess how share of co-financing affects the likelihood of a project being classified under a particular theme or objective.

To test hypothesis one, a linear regression model was fit with the vulnerability index as the dependent variable and again the share of co-financing as the independent variable. This model examines the relationship between the vulnerability index and share of co-financing, assessing whether projects in vulnerable countries receive different levels of co-financing or are associated with specific project characteristics like size or type of financing. Multicollinearity, when two variables in a regression model are highly correlated with each other, was a significant concern for this study. First, I calculated the variance inflation factor (VIF) for each independent variable in this study. Low to moderate multicollinearity scores of below five were observed among the dummy variables for project size (micro, small, medium, large), type of financing (public, private), and time period (GCF-IRM, GCF-1), which is not surprising since these variables are mutually exhausted and exhaustive, meaning that a project can only belong to one size category and type of financing (Appendix 3). To address this issue, this study used the "micro" size category as the reference level in the regression models, which removed one of the dummy variables in the study and reduced the multicollinearity among the remaining size category variables. Similarly, for type of financing, this study utilized "private funding" as the reference level in the regression models, removing private funding as a dummy variable and

reducing the moderate multicollinearity that was observed in the VIF test. The same process was done with time period, using "GCF-1" as the reference level to compare projects against.

6: Background on the Green Climate Fund and Its Co-Financing Policy:

This study specifically researches the GCF as it is the largest multilateral climate finance fund accountable to the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement as the main financial mechanism meant to implement and execute the UN's stated goals of sustainable development originally laid out in the Paris Agreement. ⁶⁹ Founded in 2010 and fully operationalized in 2015, the GCF was specifically designed as a "paradigm shift" fund meant to outlast other aging and highly criticized climate trust funds facing oncoming "sunset clauses" and to eventually become the main operating entity of the financial mechanism behind the UNFCCC. ⁷⁰

The GCF is particularly important to study due to its unique membership composition in contrast to other "multi-bi funds," in that the GCF has a "quasi-universal membership where developing countries have an equal say." The GCF, in fact, is one of the only trust funds of its size to have "one country, one vote" voting rules *and* an equal board composition between developed and developing states, suggesting that its allocation process should be more equally distributed than other funds that operate with either shareholder voting systems or with greater cost-benefit priorities. The GCF's consensus-based decision-making rules and its large number of members with diverging interests and priorities should, in theory then, make it more difficult for individual donors to shape funding decisions around allocation. The GCF, as it is accountable

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⁶⁹ Amighini, Alessia, Paolo Giudici, and Joël Ruet. "Green finance: An empirical analysis of the Green Climate Fund portfolio structure." Journal of Cleaner Production 350 (2022):

⁷⁰ de Sépibus, Joëlle. "Green Climate Fund: How Attractive Is It to Donor Countries?." *Carbon & Climate Law Review* (2015): 298-313.

⁷¹ Ibid.

to the Conference of Parties (COP) of the UNFCC, also follows the Paris Agreement with the stated goal of a "50:50" balanced between mitigation and adaptation in grant equivalent terms. And within its adaptation portfolio, the GCF aims for a 50% floor of adaptation financing to be targeted towards particularly vulnerable counties, namely Least Developed Countries (LDC), Small Island Developing States (SIDS), and African countries. The However, when accounting for total nominal funding at the GCF, 56% of currently allocated funding has been allocated for mitigation and 44% of funding has been allocated for adaptation, suggesting that the GCF (despite its goal as a "paradigm shift" fund meant to increase adaptation financing) is still contributing to the broader mitigation bias in multilateral climate finance. As the largest and most important climate fund accountable to the UNFCCC, investigating why the GCF has developed a "mission drift" away from its stated goals of its allocation is of critical importance.

As this research hypothesizes, the modern rise of earmarking across the UN

Development System presents a potential explanatory mechanism for why the GCF is missing its stated allocation goals. The GCF refers to earmarking as "co-financing" in its official documents, which they define in their *B.24/14: Review of the initial investment framework: policy on co-financing* as "the financial resources required, whether Public Finance or Private Finance, in addition to the GCF Proceeds, to implement the Funded Activity for which a Funding Proposal has been submitted." While these financial resources can include financing offered by the recipient host government, which could offset wealthy donor influence in climate finance, this study uses co-financing as its key independent variable as it accounts for the differences that exist in which projects are drawing in additional non-core funded financing— which is more likely to originate from relatively wealthier recipient states or wealthy donor states. This

⁷² GCF (2019). Policy on co-financing. Decision B.24/14

⁷³ Ibid.

additional financing to the core fund is earmarked for specific projects in specific countries or regions and can be conceptualized as a form of "contracting" of the GCF to further finance and implement a proposed project that they otherwise may not have been able to or have even chosen to implement.⁷⁴ This "contracting" of GCF services and core-funding towards projects the fund otherwise may not have implemented, at least in the long-term, can lead to substantial allocation differences and an organizational mission drift away from its stated "50:50" goals.

The logic behind GCF demand for earmarked co-financing is "simple" and largely beneficial for the fund in that it seeks to enlarge the investment volume in GCF projects and maximize the opportunity for strategic partnerships, and therefore should supposedly increase the impact of GCF interventions. ⁷⁵ In the short term, co-financing may indeed be leading to greater emission reductions or other measured target goals, but in the long term, earmarking has substantially shifted the GCF away from its originally stated distribution goals. Official GCF policy holds that proposed projects do not explicitly require co-financing to be accepted, but that co-financing is highly "desirable" and that the importance of co-financing is "firmly embedded in the Government Instrument and Strategic Plan of the GCF." ⁷⁶ So while the GCF is authorized to fund projects with solely 100% of its core-funds, the GCF actively considers the share of co-financing alongside its assessment of a proposed project's efficiency and effectiveness to decide which projects to fund and implement. ⁷⁷ On paper, however, the GCF is cognizant of the risks of solely prioritizing co-financing as the singular metric for project approval in its official co-financing policy:

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⁷⁷ GCF (2019). Policy on co-financing. Decision B.24/14

⁷⁴ Gruening, Christine, W. P. Pauw, and Luis Zamarioli. "Mobilising public and private co-finance." GCF monitor 1 (2020).

⁷⁵ Ibid.

⁷⁶ Independent Evaluation Unit (IEU). (2019). Forward-Looking Performance Review of The Green Climate Fund (FPR) Evaluation Report No. 3, Green Climate Fund, Songdo, South Korea

"While maximizing Co-financing is desirable, GCF will avoid using Co-financing metrics as stand-alone targets since maximizing climate mitigation and adaptation results does not necessarily equate with minimizing or optimizing spending on climate mitigation and adaptation. Co-financing ratios as well as expected levels of Mobilized Private Finance or Leveraged Private Finance should therefore not become stand-alone targets, as this may disincentivize GCF from financing projects/programmes with strong impact potential and high paradigm shift potential." (emphasis added)⁷⁸

While the GCF further acknowledges that "co-financing may not always be achievable or realistic," in reality, however, the GCF has increasingly utilized co-financing as way to circumvent budget shortfalls after the U.S. withdrew its proposed contributions and as a way to "compete" with existing climate funds to become the main financial mechanism of the UNFCC. 79 While the U.S. was a ratifying party to the Paris Agreement in 2016 and, in doing so, became a contributor to the GCF and paid US\$1 billion of its initial \$3 billion commitment to the GCF, the withdrawal from the Paris Agreement in 2017 left the GCF with a sizeable \$2 billion gap of its overall proposed \$10 billion in signed pledges. 80

While the U.S. later rejoined the Paris Agreement in 2021 and has pledged another \$3 billion in the second replenishment cycle of the GCF during COP28 in 2023, these funds will only finance the next generation of projects post-2024, meaning that a sizeable funding gap persisted from the GCF's initial years spanning from 2015 to 2023 as no country covered the shortfall resulting from the U.S withdrawal of contributions.⁸¹ Another issue emerges from the

⁷⁸ Ibid.

⁷⁹ Bowman, Megan, and Stephen Minas. "Resilience through interlinkage: the green climate fund and climate finance governance." Climate policy 19.3 (2019): 342-353.

⁸⁰ Ibid.

⁸¹ Ibid.

voluntary nature of contributions, by state or private parties, in that these contributions are not necessarily based on the UN Framework Convention on Climate Change's (UNFCC) "common but differentiated responsibilities principle," implying that its funding instrument also departs from UNFCC principles. 82

It is important to note, however, that the rise of earmarked co-financing across public multilateral climate finance is not necessarily a negative outcome for the GCF or the future of climate finance more generally if it can result in "new and additional" financing that otherwise would not have contributed to the pursuit of the UN's sustainable development goals— namely, if that financing was contributed by the private sector and mostly aligned with the overall allocation goals of the GCF. ⁸³ The overwhelming majority of earmarked co-financing in the GCF, however, originates from the public sector that was likely already earmarked for a climate mandate— suggesting that a large majority of co-financing within the GCF is not, in fact, "new and additional" development aid. ⁸⁴ What this means is that financing from donors that was likely already "pre-earmarked" for some climate mandate is increasingly contracting GCF services for specific projects that the donors—not the GCF board— prioritize, effectively circumventing greater accountability pressure that solely core-funded projects would otherwise face from board oversight and resulting in mission drift from the GCF's stated goals. ⁸⁵

In part, this imbalance is because emerging and developed economies are generally able to leverage more co-financing relative to lower-income countries in their project proposals, which results in the GCF choosing to implement more "desirable" projects in more moderately

⁸² Vanderheiden, Steven. "Justice and climate finance: differentiating responsibility in the Green Climate Fund." *The International Spectator* 50, no. 1 (2015): 31-45.

⁸³ Cui, L., Sun, Y., Song, M., & Zhu, L. (2020). Co-financing in the green climate fund: Lessons from the global environment facility. *Climate Policy*, *20*(1), 95-108.

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⁸⁵ Ibid.

vulnerable states compared to the most vulnerable states. ⁸⁶ This paper, for this reason, accordingly hypothesizes earmarked co-financing as the explanatory mechanism for the overwhelming allocation of financing towards moderately vulnerable states, and as the explanatory mechanism for relative low aid distribution to the most vulnerable states. Similarly, because adaptation benefits are local and because developed and emerging economies can leverage more co-financing in their project proposals, this paper also hypothesizes earmarking as the explanatory mechanism for the current mitigation bias in the GCF as most co-financing originates from developed and emerging economies which prefer globally benefiting mitigation projects over locally benefitting adaptation projects.⁸⁷

7. Results:

7.1: Descriptive Statistics:

The dataset comprised 191 projects from the GCF, with an average share of earmarked cofinancing of 45% (median = 46.3%, SD = 28.7%). The projects were implemented in countries with
an average vulnerability index of 45.03 (median = 44.9, SD = 10.1), where the largest index number
signifies less vulnerability. Among the projects funded by the GCF, 57 (29.8%) were mitigation
projects, 51 (26.7%) were multiple foci projects, and 77 (40.3%) were adaptation projects. The
remaining 17 projects (3.1%) had missing information on their focus or were "global" projects and
were removed. When accounting for total amount funded (nominal) in the GCF— a measure which
provides a more granular account of the share of financing going to mitigation or adaptation
components within multiple foci projects, in addition to solely mitigation and adaptation projects—
56% of funding has been allocated to mitigation and 44% of funding has been allocated to

86 Ibid

⁸⁷ Graham and Serdaru, "Power, control, and the logic of substitution in institutional design", 2020

adaptation. In terms of project size, 15 projects (7.9%) were micro, 71 (37.2%) were small, 73 (38.2%) were medium, and 32 (16.8%) were large. Regarding the type of financing, 145 projects (75.9%) received public financing, while 46 (24.1%) received private financing. The dataset included projects from two time periods: GCF-1 (n = 118, 61.8%) and GCF-IRM (n = 73, 38.2%). Table 2 and Table 3 provide an overview of these findings:

Table 2:Comparison of Share of Co-Financing and Vulnerability Index Across Project Types

Characteristic	Mitigation	Adaptation	Multiple Foci	All Projects
Number of Projects	57 (29.8%)	77 (40.3%)	51 (26.7%)	191
Average Share of Co-financing (%)	54.4	35.6	48.8	45.0
Difference from Average (%)	+9.4	-9.4	+3.8	-
Median Share of Co-financing (%)	57.6	27.4	50.0	46.3
Average Vulnerability Index	46.5	43.6	45.4	45.03
Difference from Average	+1.47	-1.43	+0.37	-
Median Vulnerability Index	46.6	43.9	45.1	44.9
Funding Share*	56%	44%	-	-

Note: *Funding Share accounts for the total financing for all GCF-funded projects but also includes more granular data within multiple foci projects to account for mitigation and adaptation share within those projects.

Table 3: *Projects by Size and Financing Type*

	Category	Count	Percentage
Project Size	Micro	15	7.9%
	Small	71	37.2%
	Medium	73	38.2%
	Large	32	16.8%
Financing Type	Public	145	75.9%
	Private	46	24.1%

As seen in the following Figures 1 and 2 in a comparison of projects by theme/objective, mitigation projects have the highest mean share of co-financing at 54.4% (median = 57.6%) and are followed closely by multiple foci projects at 48.8% (median = 50%). Adaptation projects have the

lowest average share of co-financing at 35.6% (median – 27.4%). This same pattern of highest to lowest averages exists for the vulnerability index of each state the project is implemented in: Mitigation projects have the highest average ND-GAIN vulnerability score (where the higher the score, the less vulnerable the state) at 46.5 (median =46.6) with multiple foci projects again following closely behind with an average vulnerability score of 45.4 (median 45.1). Adaptation projects have the lowest average ND-GAIN score of the three project themes/objectives and thus is the project focus which targets more vulnerable states compared to mitigation and multiple foci projects with an average vulnerability scorer of 43.6 (median = 43.9).

Figure 1 and Figure 2: Share of Co-Financing and Vulnerability Index by the Theme/Objective of Project



7.2: Hypothesis One & Factors Influencing the Share of Co-Financing

A series of linear regression models were conducted to investigate the factors influencing the share of co-financing in GCF projects (Table 1). Model 1 revealed a statistically significant positive relationship between the vulnerability index and the share of co-financing (β = 0.009, p < 0.01). This suggests that projects implemented in countries with higher vulnerability tend to have a higher share of co-financing. The model explained 3.8% of the variance in the share of co-financing (adjusted R^2

= 0.038). Model 2 introduced project size as a predictor variable, which significantly improved the model fit (adjusted R^2 = 0.488, p < 0.01). Compared to micro projects, large (β = 0.621, p < 0.01), medium (β = 0.396, p < 0.01), and small (β = 0.167, p < 0.01) projects had significantly higher shares of co-financing. This indicates that larger projects tend to attract more co-financing. The model explained 48.8% of the variance in the share of co-financing (adjusted R^2 = 0.488).

Model 3 added the type of financing and time period as predictors, resulting in a slight improvement in model fit ($\Delta R^2 = 0.047$, p < 0.01). Projects with public financing had a significantly lower share of co-financing compared to those with private financing (β = -0.155, p < 0.01). Projects implemented during the GCF-IRM time period had a marginally higher share of co-financing compared to those in the GCF-1 period (β = 0.049, p < 0.1). Model 3 explained 53.5% of the variance in the share of co-financing (adjusted R^2 = 0.535), the greatest R^2 value of the three models.

Table 4: Linear Regression Models

	Dependent variable: `Share of Co-Financing`		
	Model 1	Model 2	Model 3
`Vulnerability Index`	0.009***	0.002	0.002
	(0.003)	(0.002)	(0.002)
`Size of Project_Large`		0.621***	0.573***
		(0.056)	(0.056)
`Size of Project_Medium`		0.396***	0.391***
		(0.048)	(0.046)
`Size of Project_Small`		0.167***	0.170^{***}
		(0.048)	(0.046)
`Type of Financing_Public`			-0.155***
			(0.037)
`Time Period_GCF - IRM`			0.049^{*}
			(0.029)
Constant	0.058	0.054	0.171
	(0.137)	(0.106)	(0.107)

Observations	191	191	191
\mathbb{R}^2	0.043	0.499	0.550
Adjusted R ²	0.038	0.488	0.535
Residual Std. Error	0.273 (df = 189)	0.199 (df = 186)	0.190 (df = 184)
F Statistic	$8.468^{***} (df = 1; 189)$	$46.353^{***} (df = 4; 186)$	$37.499^{***} (df = 6; 184)$
Note:		*p<(0.1; **p<0.05; ***p<0.01

7.3: Hypothesis Two & Factors Influencing Project Focus

Logistic regression analyses were conducted to examine the factors influencing whether a project is mitigation or multiple foci rather than adaptation (Table 2). Model 1 shows a significant positive relationship between the share of co-financing and the likelihood of a project being mitigation or multiple foci (β = 2.186, p < 0.01). A one-percentage increase in the share of co-financing was associated with a 788.6% increase in the odds of a project being mitigation or multiple foci (OR = 8.886, 95% CI [2.891, 27.322]). Model 2 included project size as a predictor. Large (β = 2.164, p < 0.05) and medium (β = 1.053, p < 0.1) projects had significantly higher odds of being mitigation or multiple foci compared to micro projects. Large projects had 770.4% higher odds (OR = 8.704, 95% CI [1.682, 45.044]), while medium projects had 186.2% higher odds (OR = 2.862, 95% CI [0.894, 9.162]). Model 3 added the type of financing and time period as predictors. Projects with public financing had significantly lower odds of being mitigation or multiple foci compared to those with private financing (β = -1.300, p < 0.05). Public financing was associated with a 72.7% decrease in the odds of a project being mitigation or multiple foci (OR = 0.273, 95% CI [0.092, 0.808]). The time period did not have a significant effect.

Table 5: Logistic Regression Models

	Dependent variable: Mitigation or Multiple Foci		
	Model 1	Model 2	Model 3
'Share of Co-Financing'	2.186***	0.929	0.400
	(0.573)	(0.769)	(0.829)
'Size of Project_Large'		2.164**	2.065**
		(0.843)	(0.875)
`Size of Project_Medium`		1.053*	1.198*
		(0.595)	(0.621)
`Size of Project_Small`		0.767	0.800
		(0.530)	(0.545)
`Type of Financing_Public`			-1.300**
			(0.554)
`Time Period_GCF - IRM`			-0.332
			(0.335)
Constant	-0.561*	-0.965**	0.525
	(0.286)	(0.470)	(0.754)
Observations	191	191	191
Log Likelihood	-120.935	-117.323	-113.635
Akaike Inf. Crit.	245.870	244.646	241.270
Note: *p<0.1; **p<0.05, **		***p<0.01	

8: Discussion

This study provides valuable insights into how donor earmarking within the GCF affects project allocation and project focus. Hypothesis 1 posited that projects in less vulnerable states would have greater shares of earmarked co-financing compared to projects in more vulnerable states. The initial linear regression analysis (Model 1) revealed a statistically significant positive relationship between the vulnerability index and the share of co-financing. However, when control variables such as project size, type of financing, and time period were introduced in Models 2 and 3, the relationship between vulnerability and co-financing share became non-significant. This suggests that the observed relationship in Model 1 may have been influenced by these control variables. This change in significance highlights the importance of considering the

role of project characteristics and other institutional factors not included in this study's models when examining the allocation of climate finance. The analysis also revealed that project size is a significant predictor of the share of co-financing, with large, medium, and small projects having significantly higher shares of co-financing compared to micro projects. This finding remains consistent across all models, suggesting that larger projects tend to attract more co-financing, which aligns with the GCF's policy of seeking co-financing "whenever possible" to augment total funding. The type of financing also plays a key role, with publicly financed projects having a significantly lower shares of co-financing compared to projects with private financing (Model 3). Put differently, privately funded projects tend to have much higher shares of co-financing relative to publicly funded projects. This result sheds lights on how unrestrained donor influence, particularly from the private sector, could lead to future discrepancies if unabated by institutional checks.

Hypothesis 2 proposed that projects with greater shares of earmarked co-financing are more likely to focus on mitigation or multiple foci than adaptation. The logistic regression analysis initially supports this hypothesis, revealing a significant positive relationship between the share of co-financing and the likelihood of a project being mitigation or multiple foci in Model 1. However, when control variables were introduced in Models 2 and 3, the significance of the share of co-financing becomes non-significant. This suggests that project size and type of financing may also influence the focus of GCF projects. Large and medium-sized projects had significantly higher odds of being mitigation or multiple foci compared to micro projects, while projects with public financing had significantly lower odds of being mitigation or multiple foci compared to those with private financing. The decrease in p-values for the share of co-financing when accounting for control variables indicates that other project characteristics and institutional

factors play a crucial role in determining project focus. Since project size and share of cofinancing are highly correlated, further research should seek to better pinpoint and measure how exactly project size and share of co-financing interact. While earmarked co-financing may still influence the GCF's project focus, this study's findings highlight the need to consider the interplay between co-financing, project size, and financing type when assessing the factors driving the fund's allocation decisions.

The study's findings have important implications for the GCF and other development trust funds that utilize earmarked co-financing. The results suggest that co-financing can augment core funds and support larger projects, but that it may also lead to unintended consequences, such as skewing project focus towards donor preferences such as towards mitigation projects or more moderately vulnerable states. The non-significant relationship between vulnerability and co-financing share in Models 2 and 3, however, indicates that the GCF's allocation decisions may be influenced more by project characteristics and institutional factors than by country vulnerability alone. This could be suggestive that institutional protections that the GCF has in place to prevent donor or developed country influence, such as the equal board split between developing and developed states, may be ensuring a relative insulation of donor influence within the GCF.

Limitations of this study include the reliance on publicly available data through the Climate Funds Update, which may not capture all aspects or predictors of project allocation and project focus. The use of the ND-GAIN vulnerability index as a measure of country vulnerability may also not fully reflect the complex and multidimensional nature of climate vulnerability. Additionally, the analysis focused on the GCF, and the findings may not be generalizable to other climate finance institutions. Future research should explore the dynamics of earmarked co-

financing in other funds and examine the long-term impacts of co-financing on project outcomes and country vulnerability, while also considering the potential additional role of project characteristics and institutional factors. A key limitation of this study is the lack of granularity of data over the exact sources for the share of co-financing per project and a lack of data distinguishing whether the share of co-financing originates from the recipient country itself (either through national or regional governments, regional nonprofits, or the local private sector) or from external donors. Future research should seek to distinguish the exact origins of earmarked co-financing and whether such co-financing is coming from private, public, developed, developing, internal or external state origins. Parsing through the hundreds of project proposals to identify the exact sources of co-financing, as well as where that financing originated from public or private sources, would help shed greater light on the effects of earmarking as a mechanism of donor influence. As the GCF and other climate finance institutions continue to evolve, however, it is crucial to consider the numerous possibilities through which donor influence permeates throughout development organization and the other potential unintended consequences of earmarked co-financing.

Despite these limitations, our study has important implications for policy and practice in the field of climate finance. Our findings suggest that efforts to promote a more balanced and equitable allocation of climate finance resources may need to look beyond the role of earmarked co-financing, or with at-least a more granular data on the exact origins of the earmarking and consider a wider range of factors that shape project focus and distribution. This may include addressing power imbalances between donor and recipient countries, strengthening the capacity of developing countries to develop and implement climate projects, and ensuring that the GCF's own strategic priorities and decision-making processes promote a fair and effective allocation of

resources. Further research is needed to explore the broader range of factors that influence the focus and distribution of climate finance projects.

9: Conclusion

This study contributes to the nascent but growing body of research on the role of earmarked funding in shaping the allocation and focus of climate finance projects. By analyzing project-level data from the GCF, this study provides insight into the complex interplay between earmarked co-financing, project characteristics, and institutional factors in determining project allocation and focus. The findings suggest that while earmarked co-financing can augment core funds and support larger projects with greater impact, earmarking may also invertedly lead to unintended consequences, such as skewing project focus towards donor preferences like mitigation projects or towards allocation in away from the most vulnerable states.

The initial hypothesis that projects in less vulnerable states would have greater shares of earmarked co-financing was not fully supported when control variables were introduced, highlighting the importance of considering project size and type of financing when examining the allocation of climate finance. Similarly, the hypothesis that projects with greater shares of earmarked co-financing are more likely to focus on mitigation or multiple foci than adaptation was initially supported but became insignificant when control variables were included. This suggests that project characteristics and institutional factors unique to the GCF, such as the equal board split between developed and developing states, may play a crucial role in determining project focus and in moderating the influence of earmarked co-financing. By shedding light on the complex interplay between earmarked co-financing, project characteristics, and institutional factors, this study contributes to the ongoing debate on how to optimize climate finance to support the most vulnerable countries and advance the goals of the Paris Agreement. As the

global community continues to grapple with the challenges posed by the climate crisis, understanding and addressing the factors that shape climate finance allocation and how donor influence interacts with development organizations will be essential for promoting more equitable and effective climate investments.

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11: Appendix:

Appendix 1: Logistic Regression Model Robustness Check– Only Mitigation as Dependent Variable (not both mitigation + multiple)

	Dependent variable: `Theme/Objective_Mitigation`		
	Model 1	Model 2	Model 3
'Share of Co-Financing'	1.791***	-0.003	-0.972
	(0.606)	(0.844)	(0.905)
`Size of Project_Large`		3.287***	3.304***
		(1.207)	(1.216)
`Size of Project_Medium`		2.442**	2.744**
		(1.106)	(1.107)
`Size of Project_Small`		1.848^{*}	1.962*
		(1.073)	(1.081)
`Type of Financing_Public`			-1.768***
			(0.456)
`Time Period_GCF - IRM`			-0.020
_			(0.364)
Constant	-1.713***	-3.091***	-1.398
	(0.347)	(1.029)	(1.152)
Observations	191	191	191
Log Likelihood	-111.787	-106.088	-98.077
Akaike Inf. Crit.	227.574	222.177	210.154
37		* .0	1 ** .0.05 ***

Note: *p<0.1; **p<0.05; ***p<0.01

Appendix 2: Logistic Regression Models

– Only Mitigation, Multiple Foci excluded from Data

	Dependent variable: `Theme/Objective_Mitigation`		
	Model 1	Model 2	Model 3
`Share of Co-Financing`	2.426***	0.287	-0.636
	(0.670)	(0.905)	(0.977)
`Size of Project_Large`		4.024***	4.057***
		(1.322)	(1.373)
`Size of Project_Medium`		2.617**	2.896**
		(1.129)	(1.151)
`Size of Project_Small`		1.958*	2.088^{*}
. –		(1.092)	(1.116)
`Type of Financing_Public`			-2.002***
			(0.610)
`Time Period_GCF - IRM`			0.065
			(0.437)
Constant	-1.394***	-2.805***	-0.975
	(0.362)	(1.036)	(1.224)
Observations	134	134	134
Log Likelihood	-84.147	-77.365	-70.937
Akaike Inf. Crit.	172.294	164.730	155.874
Note:	*p<0.1; **p<0.05; ***p<0.01		

Note:

*p<0.1; **p<0.05; ***p<0.01

Appendix 3: VIF Values for Hypothesis One

Variable	Value
Share of Co-Financing	2.214488
Size of Project_Large	3.489793
Size of Project_Medium	3.626188
Size of Project_Small	2.758351
Type of Financing_Public	1.235846
Time Period_GCF - IRM	1.042452