THE GLOBAL DEMOCRATIC DEFICIT: INSTITUTIONAL SYMMETRIES AND THE PROVISION OF GLOBAL PUBLIC GOODS

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WORKING PAPER N°2026/06

MARCH 2026

WORLD INEQUALITY LAB

The Global Democratic Deficit: Institutional Asymmetries and the Provision of Global Public Goods

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March 24, 2026

Abstract

This paper investigates how global governance structures shape the provision and distribution of global public goods (GPGs). We construct a novel historical database on the *Global Public System*, covering more than 60 international organizations from the League of Nations (1920) to today, including the Bretton Woods system (World Bank and IMF), the United Nations and its agencies, the European Union and a broad set of multilateral development banks. We document two systematic patterns. First, in institutions where votes have a fixed price, richer countries accumulate more power because it is cheaper for them relative to their GDP. In the IMF, for instance, the cost of acquiring voting power is 26 times higher for low-income countries, resulting in high-income countries concentrating 70% of votes. Second, these same institutions display strong evidence of strategic allocation. Around 70% of World Bank and IMF funds go to countries that are aligned with the G7. By contrast, more democratic institutions—such as the UN—exhibit progressive contribution profiles and no evidence of alignment-based allocation. We interpret these findings through the lens of institutional design. When financial contributions translate into voting power, the same mechanism that lowers the relative cost of influence for large economies also allows them to steer resource allocation toward preferred partners. We formalize this logic in a simple constitutional model of public-goods provision under alternative governance rules. The findings have implications for the design of a more democratic architecture of global governance.

Keywords: Global public goods, international organizations, voting power, strategic allocation

JEL Classification: F02, F53, H87

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We are particularly grateful to Thomas Piketty and Gabriel Zucman for their continuous guidance. We thank Daron Acemoglu, Abhijit Banerjee, Maximilian Dörfler, Pietro Geuna, Gita Gopinath, Robert O. Keohane, Justin Yifu Lin, Matteo Maggiori, Alexey Makarin, Jamie Martin, Branko Milanović, Vincent Pons, Emanuele Properzi, Dani Rodrik, Ken Rogoff, Emmanuel Saez, BooKang Seol, Jesse Schreger, participants of the International Workshop at Harvard University, participants of the Alberto Alesina Graduate Workshop in Political Economics and Culture at Harvard University and participants participants of the LSE International Development department seminar for helpful comments and suggestions. We thank Genaro Damiani and Valentina Paguegui for valuable research assistance. All remaining mistakes are our own. Paula gratefully acknowledges that this work was supported by a fellowship from the German Academic Exchange Service (DAAD). Gastón thanks the support of the EUR grant ANR-17-EURE-0001.

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How to cite this working paper: Druschke, P., Nievas, G., The Global Democratic Deficit: Institutional Asymmetries and the Provision of Global Public Goods, World Inequality Lab Working Paper 2026/06

> *As the United States economic leadership in the world economy falters, and Europe gathers strength,* three outcomes are politically stable; three unstable. *Among the stable outcomes are continued or revived United States leadership [...]; an assertion of leadership and assumption of responsibility for the stability of the world system by Europe; or an* ***effective cession of economic sovereignty to international institutions*** *[...].*
>
> ***In these circumstances, the third positive alternative of international institutions with real authority and sovereignty is pressing.***
>
> — Charles P. Kindleberger, *The World in Depression, 1929–1939* (1973), p. 308.[1]

1 Introduction

Economists have reached a broad consensus that democracy at the national and subnational level tends to improve economic and social outcomes (Acemoglu et al., 2019; Papaioannou and Siourounis, 2008; Besley and Kudamatsu, 2006). Yet, much less attention has been devoted to *global democracy*—that is, the governance of interdependent nation states through supranational institutions. This relative neglect is striking. Many of today's most consequential challenges—climate change, pandemics, financial crises—are inherently global, and cannot be addressed by national policies alone. One reason for this gap is the lack of both an organizing framework and systematic data to study how global governance actually operates.

International institutions are the primary institutional response to this problem. Designed over the past century, they represent one of the most ambitious attempts to organize cooperation across sovereign states and to govern the global commons. Their record, however, has always been mixed. The League of Nations—the first large-scale experiment in global governance—was created to preserve peace after World War I, a task it notably failed to achieve. Its successors face a different but equally demanding set of objectives in providing global public goods (GPGs) -such as climate mitigation, pandemic preparedness, financial stability, and peacekeeping-.

These tasks have become more difficult in a global political environment increasingly defined by fragmentation, nationalism, and a retreat from multilateral engagement. This weakening of the rules-based international order leaves low-income and developing countries[2] particularly vulnerable. At the same time, skepticism toward international institutions has intensified. A recurring criticism—often directed at institutions such as the IMF and the World Bank—is that they are used by powerful countries to advance their own strategic interests.

Recent debates have made this concern more salient. For instance, discussions surrounding Argentina's financing arrangements in 2025 highlighted the perceived interaction between geopolitical alignment and multilateral support.[3] A common defense of existing arrangements is that influence

[1] Emphasis and omissions added.

[2] Throughout this paper, we use "developing countries" and "emerging economies" interchangeably to refer to countries eligible for lending from multilateral development institutions.

[3] Following a local electoral loss by President Milei's party in Buenos Aires on September 7, 2025, financial markets reacted negatively, partly reflecting uncertainty ahead of upcoming midterm elections scheduled for October 26. In the following weeks, signals of political support from the United States were interpreted by markets as improving Argentina's outlook. On September 22, US Treasury Secretary Scott Bessent publicly emphasized Argentina's importance as a strategic partner in Latin America (see post). The next day, President Donald Trump expressed support on Truth Social (see post).

should reflect financial contributions: countries that contribute more in nominal terms should have greater control. However, this argument contrasts sharply with the design of national democracies. In domestic settings, individuals contribute to public goods according to their capacity—through taxes on income or wealth—but exercise equal voting rights, regardless of how much they contribute in absolute terms or of how progressive or regressive the tax system is.

This disconnect between the design of national democracy and that of global governance raises a fundamental question: how does the rules-based order actually work in practice? This paper addresses this question by examining three core dimensions of international organizations: who contributes financially, who holds voting power, and how resources are allocated. Do these dimensions align with principles of proportionality and fairness, or do they reflect deeper asymmetries embedded in institutional design?

To answer these questions, we construct a novel dataset on the *Global Public System*, covering more than 60 international organizations from the League of Nations (1920) to 2024. The dataset brings together, for the first time, consistent information on contributions, voting power, and disbursements across major institutions. While the coverage is not exhaustive—some organizations, such as the Bank of International Settlements, remain excluded due to limited data availability—it encompasses the core institutions of global governance and new data will be included as soon as it becomes available. More broadly, the project aims to encourage transparency: systematic reporting of institutional functioning is itself a key democratic principle, whether at the national or global level.

The central argument of the paper is that the political economy of institutional design is the key determinant of outcomes. Funding rules, voting structures, and governance procedures jointly shape how the burdens and benefits of cooperation are distributed across countries. In particular, institutions differ sharply in the extent to which financial contributions translate into formal voting power.

Our first result is that *censitary institutions*—that is, institutions in which voting power is effectively purchased through financial contributions—generate highly unequal distributions of control. This logic is not new historically. Nineteenth-century systems of weighted voting, such as those in Sweden, explicitly linked political influence to economic status (Piketty, 2020).[4] The development of modern national democracies has largely involved moving away from such censitary arrangements. By contrast, contemporary quota-based international institutions reproduce a similar structure. In the IMF, poorer countries pay substantially more relative to their economic capacity to acquire voting power: the cost of obtaining 1% of voting shares is roughly 26 times higher (as a share of GDP) for the bottom income quintile than for the top (Figure 11). This translates into a highly unequal distribution of control, with high-income countries collectively holding around 70% of total voting power (Figure 12). Put differently, a citizen of a rich country is represented by approximately 14

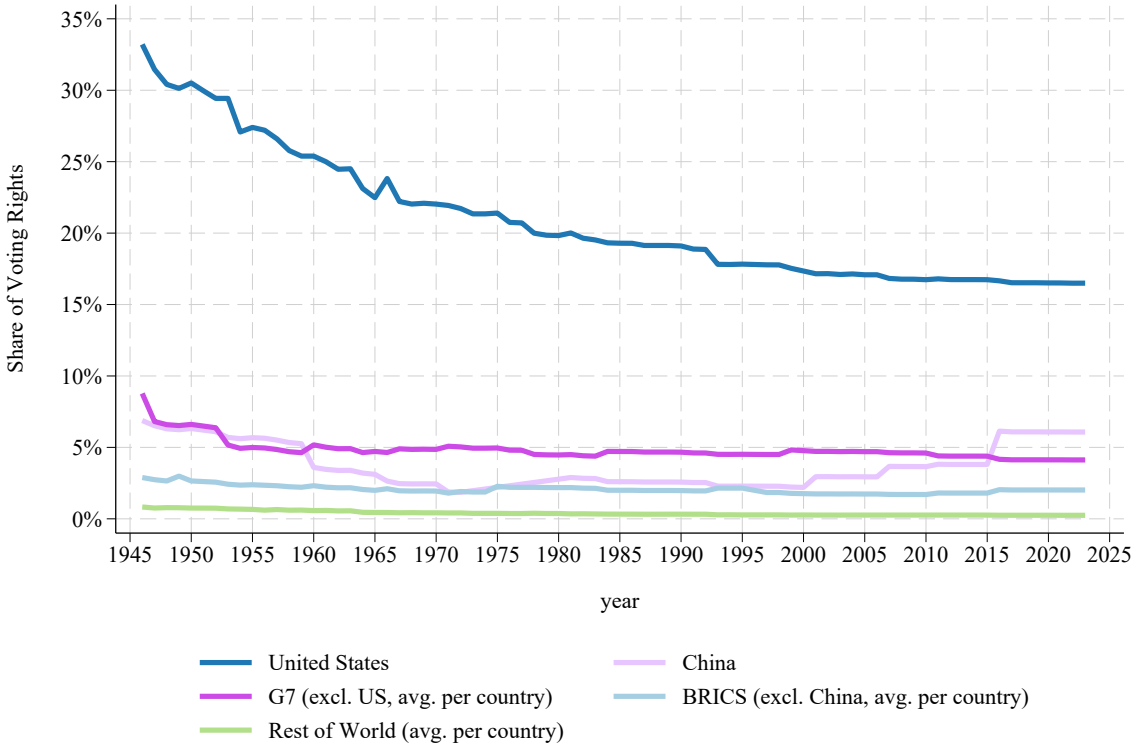
Almost immediately, the Bretton Woods institutions reacted to the US foreign policy: the World Bank announced an acceleration of its support program the same day (World Bank statement), and shortly thereafter, IMF Managing Director Kristalina Georgieva signaled alignment with US policy priorities (Bloomberg). While anecdotal, the sequence highlights how geopolitical alignment and expectations thereof can interact with multilateral financing decisions.

[4]The Swedish system in place from 1865 to 1911 created a formal link between the size of a voter's tax payments, property, and income and the number of votes they could cast. Similar to the WB/IMF quota formula, the exact weight assigned to each voter was determined by a formula (*frykar*). In some municipalities, this resulted in a single voter controlling more than 50% of total votes. For further details, see Chapter 5 in (Piketty, 2020).

times more voting power than a citizen of a poorer country. The most influential group of countries within the institution is the G7, who hold around 41% of voting power 1.

These asymmetries have direct implications for burden sharing. Because richer countries can acquire influence at a lower relative cost, they can contribute less as a share of GDP while still maintaining dominant control over the institution. This reverses Olson's classical "exploitation of the great by the small" (Olson and Zeckhauser, 1966). Instead, poorer countries bear a higher relative burden while holding less control—a pattern we describe as an *exploitation of the poor by the rich*.

Figure 1: IMF Voting Power: US, China, G7, BRICS, and Rest of World



G7 and BRICS exclude the US and China respectively. G7: Canada, France, Germany, Italy, Japan, UK. BRICS: Brazil, India, Russia, South Africa. Lines for G7, BRICS, and RoW show average vote share per country.

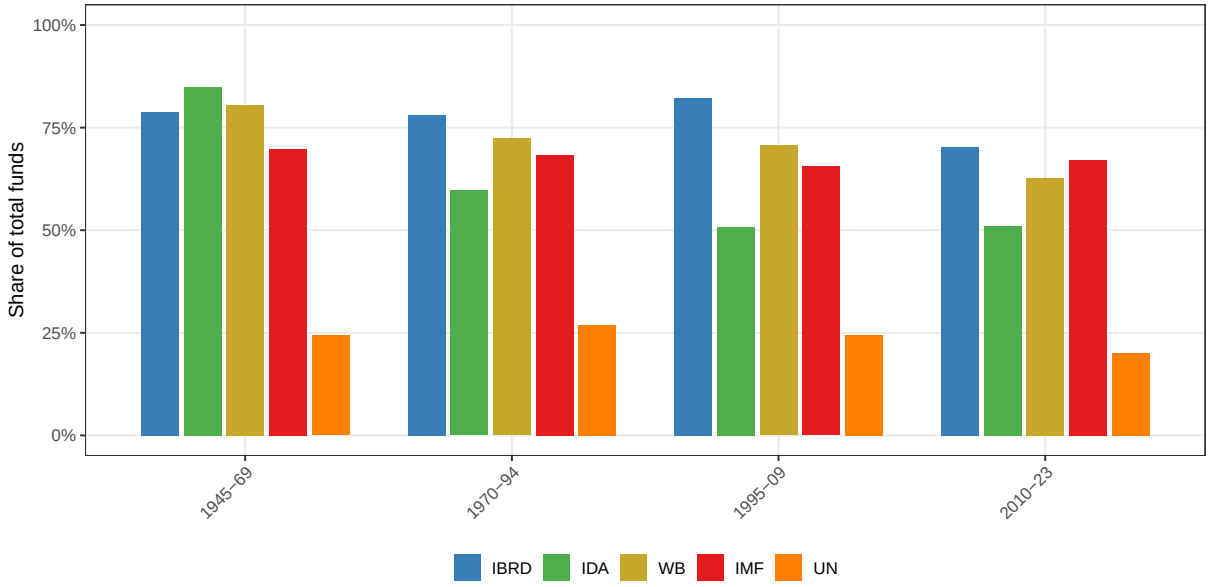
Our second result is that these governance structures also shape the allocation of resources. In contribution-weighted institutions, funds are systematically tilted toward countries that are geopolitically aligned with dominant shareholders. Quantitatively, around 70% of IBRD (World Bank) disbursements and 67% of IMF lending go to G7-aligned countries, even though these countries account for only 52% and 6% of developing-country population, and 48% and 3% of developing-country GDP, respectively (Figure 2)[5]. By contrast, in the United Nations—where voting power is less tightly linked to financial contributions—only about 20% of funds go to countries aligned with permanent members of the Security Council, a share much closer to their demographic and economic weight.[6]

[5]Countries holding the majority of voting power also shape the rules governing the system, from which they disproportionately benefit. See Nievas and Sodano (2024) for evidence on how advanced economies gain from the International Financial System.

[6]This does not imply that the UN is fully democratic, given the veto power of Security Council members. Rather, it

These results are robust across different measures of geopolitical alignment, including defense alliances, trade agreements, and more flexible indicators based on international cooperation agreements. Empirically, we estimate the baseline relationships using Poisson pseudo–maximum likelihood (PPML), which accommodates the large number of zero disbursement observations and yields consistent estimates under general heteroskedasticity (Santos Silva and Tenreyro, 2006). We also address concerns about endogeneity. Countries may align with powerful states in anticipation of future funding, and institutions may reward countries for reasons correlated with alignment. To mitigate these concerns, we complement cross-sectional evidence with within-country specifications and a stacked difference-in-differences design exploiting electoral turnovers. The results consistently point to a strong association between alignment and allocation, although they should be interpreted cautiously as evidence of systematic patterns rather than strictly causal effects.

Figure 2: Share of Institutional Funds Going to Top-Hegemon Aligned Countries



Share of each institution's total disbursements received by developing countries in the top quartile of geopolitical alignment, averaged over four periods (1945–69, 1970–94, 1995–2009, 2010–23). For the IBRD, IDA, World Bank, and IMF, alignment is measured by the 5-year cumulative stock of International Cooperation Agreements (ICAs) with G7 countries (top quartile by year). For the UN, alignment is measured by ICAs with permanent members of the Security Council. For years where ICA data is unavailable, countries retain their last observed alignment status.

To rationalize these findings, the paper develops a simple constitutional model of public-goods provision under alternative governance rules. The model focuses on how institutional rules map financial contributions into voting power and how this mapping shapes both burden sharing and allocation outcomes. The key insight is that when financing and control are bundled, the same mechanism that allows large countries to contribute relatively less also allows them to direct resources toward their preferred partners. Fiscal advantage and allocation bias therefore emerge as two sides of the same institutional logic.

More broadly, the paper speaks to a classic insight in political economy. As emphasized by Buchanan and Tullock (1962); Buchanan (2003), policymakers do not become altruistic once they operate within public institutions. They remain ordinary agents, responding to incentives and constraints. Politics,

highlights that its broader institutional design constrains the ability of powerful countries to direct financial allocations in the same way as quota-based institutions.

in this view, is "without romance": outcomes reflect the interaction of self-interested actors rather than the pursuit of a common good.

The same principle applies at the international level. International organizations do not neutralize national interests simply by pooling resources; they aggregate them under specific institutional rules. Absent effective checks and balances, the actors with the greatest formal power shape both who pays for cooperation and who benefits from it. In this sense, the distribution of influence embedded in institutional design is not a secondary feature, but a central determinant of global outcomes.[7]

International organizations are often described as suffering from a "global democratic deficit," insofar as their decision-making authority is not matched by equivalent mechanisms of representation and accountability (Dahl, 1999; Keohane et al., 2009). Our results suggest that this deficit is not evenly distributed: it is substantially larger for citizens of the Global South, who face both weaker representation and less influence.

The remainder of this section reviews the related literature. Section 2 provides a historical overview of international institutional design. Section 3 describes the data. Section 4 examines funding, burden sharing, and the pricing of voting power across institutions. Section 5 analyzes fund allocation and strategic interests. Section 6 develops a constitutional model of public goods provision under alternative governance rules. Section 7 discusses the results and concludes.

1.1 Literature Review

This paper relates to four literatures: the economics of global public goods, the burden-sharing literature originating in Olson's exploitation hypothesis, the political economy of international organizations, and the literature on legitimacy and democratic deficit in global governance. Its contribution is not to offer a general theory of multilateralism. Rather, it studies a more specific and empirically central question: how the institutional mapping from financial contributions into formal voting power shapes both the incidence of multilateral financing and the allocation of multilateral spending.

1.1.1 Global Public Goods

The starting point is the standard economics of public goods. Since Samuelson (1954, 1955), economists have emphasized that non-rivalry and non-excludability generate free-riding and under-provision in decentralized environments. These ideas were extended to the international level by Kindleberger (1974, 1986) and later developed in the literature on global collective action and global public goods (Kaul et al., 1999; Sandler, 2004; Barrett, 2007; Buchholz and Sandler, 2021). Subsequent work broadened the scope of analysis beyond pure Samuelsonian public goods to encompass regional public goods, joint-product technologies, and cross-border externalities with heterogeneous beneficiaries (Cook and Sachs, 1999; Anand, 2004; Sandler, 2006; Reisen et al., 2008; Hirshleifer, 1983;

[7] This point applies primarily to high-level decision makers within international organizations, whose actions are ultimately shaped by the interests and constraints of their member states. While these institutions rely extensively on highly qualified technical staff who perform essential analytical work, final allocation and policy decisions are typically made at the political level.

Andreoni, 1988). Applications span climate, knowledge, health, education, and financial stability (Nordhaus, 1991; Stiglitz, 1999; Kaul and Mendoza, 2003; McMahon, 2004; Stiglitz, 2006; Brown and Susskind, 2020; Khan and Sirazoom, 2021).

This paper adopts that broad functional perspective. The relevant issue here is not whether every activity financed by the UN, IMF, or World Bank is a pure public good in the textbook sense, but whether multilateral spending generates cross-border externalities or sustains the institutional capacity through which international cooperation is organized. In that sense, the paper fits within the GPG literature, but shifts attention from the standard question of *how much* cooperation is achieved to the more institutional question of *who pays* for that cooperation and *who controls* the use of the associated resources.

The paper also relates to the literature on why states rely on formal institutions to provide such goods. International organizations lower transaction costs, facilitate monitoring, stabilize expectations, and help sustain cooperation under conditions of anarchy (Krasner, 1983; Keohane, 2005; Oye, 1986; Snidal, 1985). A complementary institutional-design literature studies how membership rules, delegation, voting procedures, and mandates structure cooperation (Koremenos et al., 2001; Hawkins et al., 2006; Barnett and Finnemore, 2004; Ikenberry, 2001). Particularly close to the present paper, Graham (2015, 2017) argues that funding rules are themselves constitutive features of governance rather than mere technical devices. The contribution here is to push this insight further by analyzing the consequences of one specific funding constitution that is pervasive in practice: systems in which larger contributions buy greater formal control.

1.1.2 Burden Sharing and the Exploitation Hypothesis

A second literature concerns burden sharing in collective action problems. Olson Jr (1965) famously argued that when actors differ in size and stakes, larger actors may end up bearing a disproportionate share of the cost of a public good—the "exploitation of the great by the small." In international settings, Olson and Zeckhauser (1966) formalized this intuition in the context of alliances, and a large subsequent literature examined free-riding and burden sharing in NATO and other defense arrangements (Murdoch and Sandler, 1984; Oneal, 1990; Sandler, 1993; Sandler and Hartley, 2001). The broader theoretical benchmark is the private-provision approach to public goods (Bergstrom et al., 1986).

Later work extended this framework to account for heterogeneous preferences, heterogeneous productivities of contributions, country size asymmetries, and larger numbers of players (Andreoni and McGuire, 1993; Ihori, 1996; Boadway and Hayashi, 1999; Cornes and Hartley, 2007; Buchholz and Sandler, 2016). Even where empirical support for the exploitation hypothesis proved mixed, it remained the natural point of departure for thinking about burden sharing in international cooperation (Sandler, 2004; Barrett, 2007; Buchholz and Sandler, 2021; Nye, 2023).

This paper departs from that literature in a precise way. In Olson-type environments, contributions are voluntary and the main question is whether larger countries contribute too much relative to smaller ones. In the institutions studied here, contributions are instead mediated by quotas, assessment rules, and capital subscriptions. More importantly, contributions do not merely finance the public good: in

many institutions they also determine voting power. The core contribution of this paper is to show that once financing and control are bundled together, the standard burden-sharing logic can be reversed. Instead of exploitation of the great by the small, one can obtain a regressive equilibrium in which poorer countries pay more relative to their economic capacity while richer countries simultaneously acquire greater control over resource allocation.

This constitutional perspective places the paper in the broader tradition of political and constitutional economy, where outcomes depend not only on preferences and endowments but also on the rules under which collective decisions are made (Buchanan and Tullock, 1962; Persson and Tabellini, 2000). Relative to existing public-goods models, the paper's contribution is therefore not simply to "add institutions," but to isolate one specific institutional feature—the mapping from contributions into votes—and show that it jointly shapes financing incidence, reform dynamics, and project allocation.

1.1.3 International Organizations, Power, and Strategic Allocation

A third literature studies international organizations as arenas of power rather than neutral mechanisms of welfare maximization. Work in international political economy and organization theory emphasizes that formal rules, delegation arrangements, and hegemonic bargaining can embed durable asymmetries of influence (Gruber, 2000; Barnett and Finnemore, 2004; Stiglitz, 2002; Vestergaard and Wade, 2013, 2015). This view is consistent with a broader literature showing that institutional design affects whose preferences prevail within international organizations (Koremenos et al., 2001; Hawkins et al., 2006; Keohane, 2005).

A large empirical literature further shows that aid and multilateral finance often respond not only to recipient need but also to donor interests. In bilateral aid, this argument appears in studies of political alignment, donor self-interest, and UN voting (Wang, 1999; Alesina and Dollar, 2000; Berthélemy, 2006; Andersen et al., 2006). In multilateral settings, related work documents strategic influence in IMF and World Bank lending, UN allocations, and MDB decisions (Frey and Schneider, 1986; Thacker, 1999; Stone, 2002; Barro and Lee, 2005; Sturm et al., 2005; Kuziemko and Werker, 2006; Kilby, 2006; Dreher et al., 2009; Kilby, 2009; Dreher and Sturm, 2012; Kaja and Werker, 2010; Bayram and Graham, 2017; Novosad and Werker, 2019). The main achievement of this literature has been to establish that multilateral institutions do not automatically neutralize national interests simply because resources are pooled.

This paper contributes to that literature in three ways. First, it compares strategic allocation globally, across institutions with very different governance structures, rather than studying one organization in isolation. Second, it does so with a historical perspective, since the beginning of global governance in 1920, whereas most of the previous literature starts their analyisis in the 1970s or 1990s. This allows the paper to connect current allocation patterns to durable institutional rules. Third, it provides a simple mechanism linking governance structure to strategic allocation: when larger contributors obtain greater formal control, they can shape not only who pays for the institution but also where resources are directed. In this framework, allocation bias is not an accidental deviation from multilateralism; it is a predictable outcome of contribution-weighted governance.

1.1.4 Legitimacy and Democratic Deficit

Finally, the paper connects to the literature on legitimacy, representation, and democratic deficit in global governance. This literature asks whether international institutions can be effective and legitimate when decision-making power is highly unequal across formally sovereign states (Dahl, 1999; Nye, 2001; Moravcsik, 2004; Buchanan and Keohane, 2006; Keohane et al., 2009; Scholte, 2011; Tallberg et al., 2013; Grigorescu, 2015; Zürn, 2018). Related work has emphasized the systematic underrepresentation of the Global South in institutions such as the IMF and World Bank (Glenn, 2008; Weaver, 2008).

The present paper does not attempt to resolve the normative question of what a democratic global order should look like. Its contribution is more limited and more concrete. It shows that formal representation rules have measurable consequences for both burden sharing and resource allocation. If contribution-weighted systems lower the relative cost of influence for large economies and steer resources toward their geopolitical partners, then concerns about democratic deficit are not only normative; they have direct distributive consequences.

Taken together, these literatures point to a common gap. The public-goods literature explains why international cooperation is difficult; the international-organization literature explains how cooperation is structured; and the political-economy literature shows that powerful states often shape outcomes within multilateral institutions. What is less developed is a unified analysis of how a specific constitutional feature of international organizations—the bundling of financing and voting power—simultaneously shapes burden incidence and funds allocation. This paper addresses that gap by combining new long-run evidence on contributions, voting rights, and disbursements with a simple constitutional model of multilateral public-goods provision.

2 Historical background

This section does not attempt to provide a comprehensive overview but instead offers essential background for the analysis ahead (for in-depth studies, see for example, (Pedersen, 2007; Henig, 2010; Clavin, 2013; Housden, 2014; Pedersen, 2015) on the League of Nations, (Weiss and Daws, 2018; Lopez-Claros et al., 2020; Toussaint, 2023) on the United Nations, (Kapur et al., 1997; Woods, 2014) on the World Bank and IMF, and (Engen and Prizzon, 2018; Babb, 2019), on Multilateral Development Banks). The following section briefly outlines the historical developments, institutional structures and governance of key international organizations, highlighting how their design has influenced burden-sharing patterns and quasi-hegemonic power. This chapter is structured as follows: In Section 2.1 we first focus on the League of Nations, its decline, replacement by the United Nations, and the subsequent expansion of the UN system, we then turn to the Bretton Woods institutions, namely the World Bank and the International Monetary Fund in Section 2.2, and we conclude with the proliferation of regional Multilateral Development Banks that have emerged since the 1960s in Section 3.3.

2.1 The Origins of Global Governance: The League of Nations and the United Nations

Although early international organizations such as the International Telecommunication Union (ITU) and the Universal Postal Union (UPU) existed before World War I, their functions remained confined to highly technical and sector-specific matters (Martin, 2022). It was the unprecedented devastation of World War 1 that underscored the need for a coordinated international system. The establishment of the League of Nations in 1919 is widely regarded as the inception of modern international multilateralism, representing the first concerted effort to institutionalize global cooperation and prevent future conflict. Although there is no consensus on its impact, the League left a significant legacy by shaping the design and functioning of later institutions such as the United Nations and the Bretton Woods system - both institutionally and in terms of the political dynamics that defined its existence (Pauly, 1996).

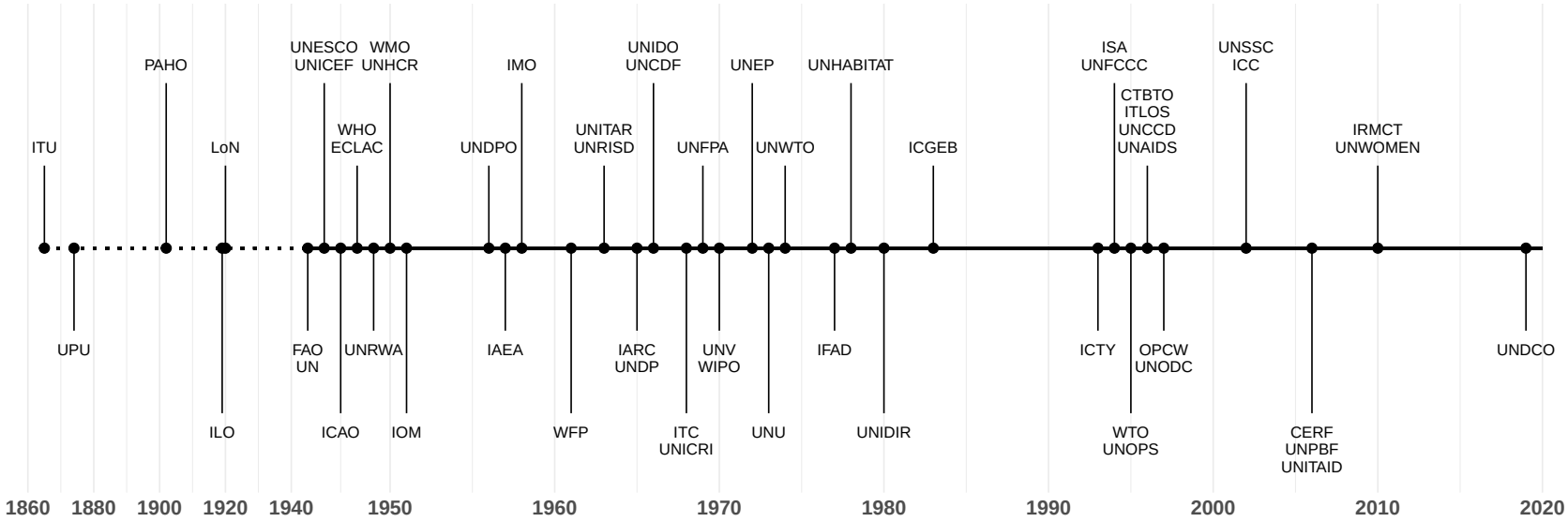
In the wake of World War II, the international community intensified its efforts to secure lasting peace and stability through the creation of new multilateral institutions. The United Nations was established to promote global cooperation and foster peace (Morris, 2018). The United Nations soon evolved from a singular international organization into a complex institutional architecture, known as the UN System, encompassing its principal and subsidiary organs, funds and programs, specialized agencies, related entities, and affiliated organizations[8] (see Figure 1). Over time, its membership also expanded significantly (see Figure 2)[9].

The UN operates thanks to the funding provided by member countries. Funding from member states is divided into two categories: assessed and voluntary contributions. Voluntary contributions are made at the discretion of member countries, who not only determine the amount they wish to contribute but, in the case of earmarked funds, can also specify how and where the money should be used. In contrast, assessed contributions are mandatory payments that member states are legally required to provide, according to a scale of assessment adopted by the General Assembly (UN General Assembly, 2021).

[8] A detailed overview is provided in Appendix Figure A.1. Due to its importance, distinct institutional structure and mode of operation, the World Bank Group will be analyzed separately from the UN system, despite being formally recognized as a specialized agency.

[9] Figure A.9 in the Appendix provides a regional breakdown.

Figure 3: Timeline of the United Nations System

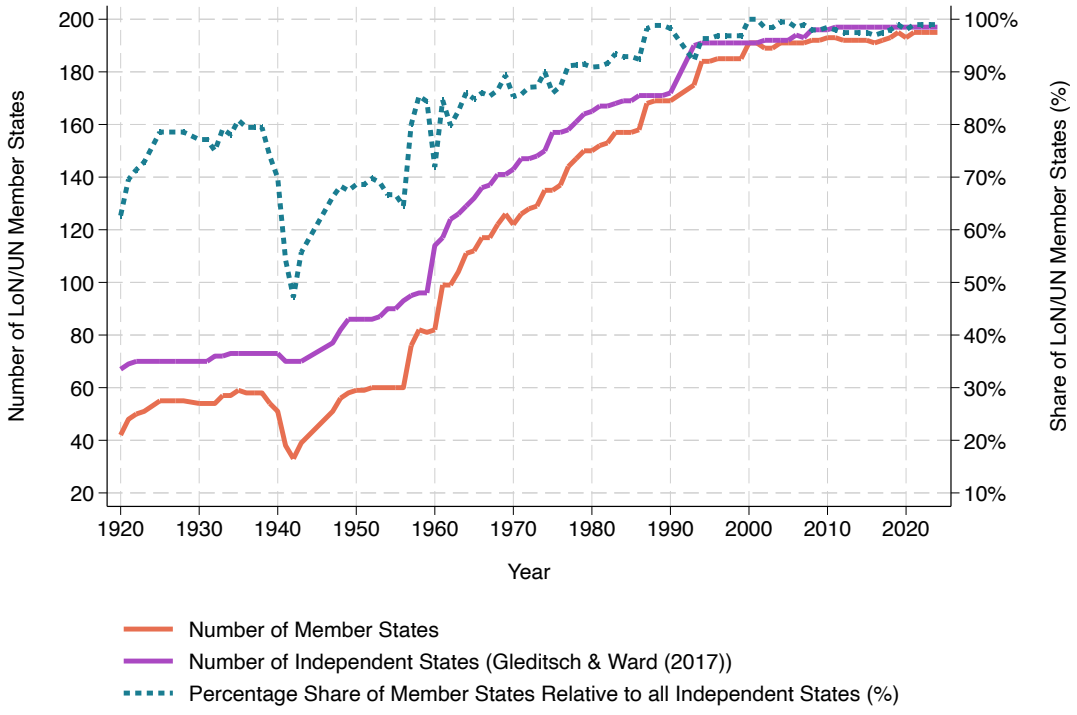


CERF	Central Emergency Response Fund	**LoN**	League of Nations	**UNIDO**	United Nations Industrial Development Organization
CTBTO	Comprehensive Nuclear−Test−Ban Treaty Organization	**OPCW**	Organisation for the Prohibition of Chemical Weapons	**UNITAID**	Unitaid (International Drug Purchase Facility)
ECLAC	Economic Commission for Latin America and the Caribbean	**PAHO**	Pan American Health Organization	**UNITAR**	United Nations Institute for Training and Research
FAO	Food and Agriculture Organization	**UN**	United Nations	**UNODC**	United Nations Office on Drugs and Crime
IAEA	International Atomic Energy Agency	**UNAIDS**	Joint United Nations Programme on HIV/AIDS	**UNOPS**	United Nations Office for Project Services
IARC	International Agency for Research on Cancer	**UNCCD**	United Nations Convention to Combat Desertification	**UNPBF**	United Nations Peacebuilding Fund
ICAO	International Civil Aviation Organization	**UNCDF**	United Nations Capital Development Fund	**UNRISD**	United Nations Research Institute for Social Development
ICC	International Criminal Court	**UNDCO**	United Nations Development Coordination Office	**UNRWA**	United Nations Relief and Works Agency for Palestine Refugees
ICGEB	International Centre for Genetic Engineering and Biotechnology	**UNDP**	United Nations Development Programme	**UNSSC**	United Nations System Staff College
ICTY	International Criminal Tribunal for the former Yugoslavia	**UNDPO**	United Nations Department of Political Operations	**UNU**	United Nations University
IFAD	International Fund for Agricultural Development	**UNEP**	United Nations Environment Programme	**UNV**	United Nations Volunteers
ILO	International Labour Organization	**UNESCO**	United Nations Educational, Scientific and Cultural Organization	**UNWOMEN**	United Nations Entity for Gender Equality and the Empowerment of Women
IMO	International Maritime Organization	**UNFCCC**	United Nations Framework Convention on Climate Change	**UNWTO**	United Nations World Tourism Organization
IOM	International Organization for Migration	**UNFPA**	United Nations Population Fund	**UPU**	Universal Postal Union
IRMCT	International Residual Mechanism for Criminal Tribunals	**UNHABITAT**	United Nations Human Settlements Programme	**WFP**	World Food Programme
ISA	International Seabed Authority	**UNHCR**	United Nations High Commissioner for Refugees	**WHO**	World Health Organization
ITC	International Trade Centre	**UNICEF**	United Nations Children's Fund	**WIPO**	World Intellectual Property Organization
ITLOS	International Tribunal for the Law of the Sea	**UNICRI**	United Nations Interregional Crime and Justice Research Institute	**WMO**	World Meteorological Organization
ITU	International Telecommunication Union	**UNIDIR**	United Nations Institute for Disarmament Research	**WTO**	World Trade Organization

The timeline includes all UN agencies for which contribution and/or expenditure data are available. Bretton Woods institutions, typically considered part of the broader UN system, are excluded and reported with multilateral development banks (MDBs) due to their distinct governance structures. Detailed data coverage by institution is reported in Annex Table 3.

The UN Scale of Assessment is based primarily on each country's average annual Gross National Income (GNI) over a reference period of three to six years and follows the capacity-to-pay principle, requiring countries to contribute according to their economic ability. The formula also incorporates two key relief measures: a debt burden adjustment and a low per capita income adjustment. These mechanisms are designed to reduce the financial burden on countries with particularly high debt levels or low GNI per capita. Additionally, contributions are bounded by several structural limits, including a minimum ("floor") assessment, a Least Developed Countries (LDC) ceiling, and a maximum ("ceiling") assessment. The floor is meant to guarantee that even the smallest and poorest countries contribute a non-negligible share to the overall budget. The ceiling limit on the contrary reduces the share of the budget that very large and rich countries contribute. In practice, this ceiling has been applied exclusively to the U.S. and was instituted largely through its political pressure, despite strong opposition from other member states due to its clear deviation from the capacity-to-pay principle (Laurenti, 2018). As a result, the US contributes a smaller share of its GDP to the UN than other G7 members (see Appendix Figure A.10). For a detailed explanation of the UN Scale of Assessment and the formula used see Appendix Note A.1.

Figure 4: Number of LoN/UN Member States Over Time



Countries contribute to the UN general budget yearly. Before 1944 data is for the League of Nations (LoN). The decline in membership during the 1930s reflects the withdrawal of several states, including Germany (1933), Japan (1933), and Italy (1937), as well as the expulsion of the Soviet Union (1939). Although the LoN was never formally dissolved during WW2, its active membership had already contracted substantially before the war; its functions were transferred to the UN in 1946.

Figure A.13 in the Appendix highlights the growing diversity of financial contributors to the United Nations. While member state governments remain the primary source of funding - and the main focus of this paper - their share has declined by 3% from 2013 to 2023, reflecting a gradual diversification of the UN's donor base[10].

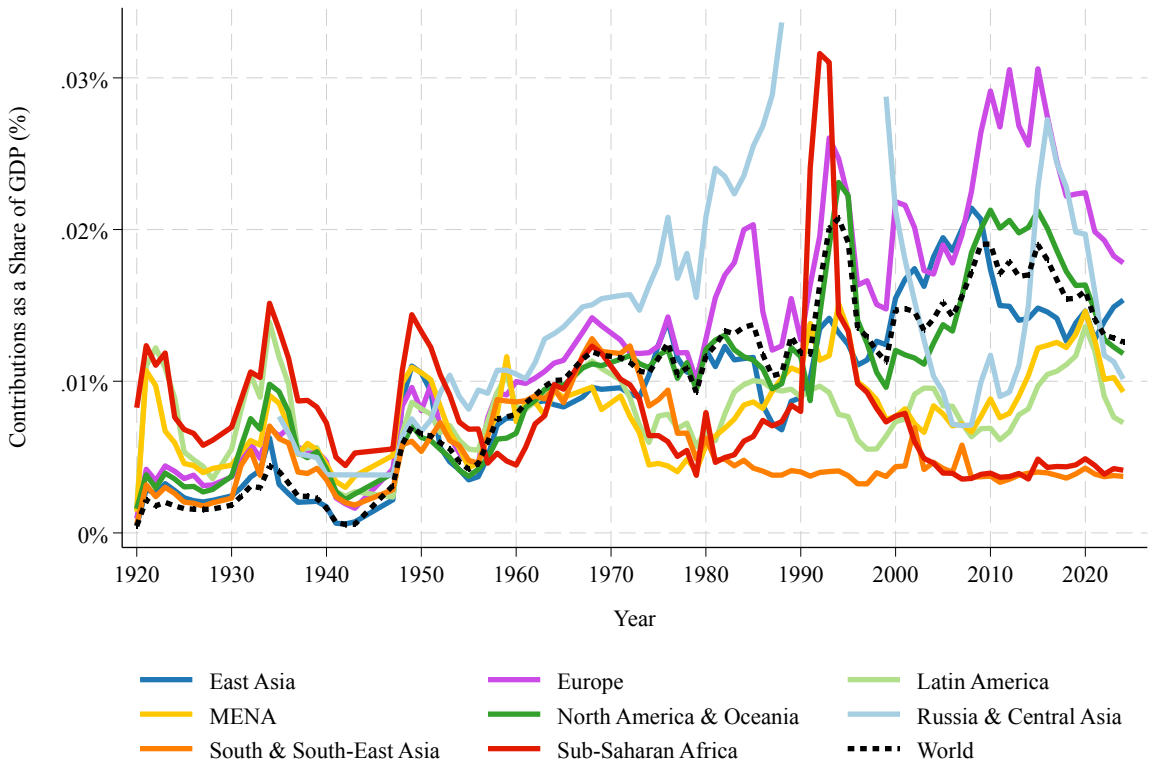
[10]It is important to note that our data reflects the amounts that member states are formally obligated to pay each year,

Total contributions to the UN system have gradually increased in nominal terms over the past century, as illustrated in Figure A.14 in the Appendix. Nevertheless, scholars have consistently highlighted the chronic underfunding of the United Nations (Laurenti, 2018; Baumann and Haug, 2024). While mandatory contributions to the League of Nations averaged around 0.002% of global GDP during the interwar period, UN contributions stabilized at approximately 0.01% of global GDP from 1950 onward, and have increased to 0.016% in the most recent decades. Importantly, the increase in assessed contributions reflects exclusively the expansion of the UN peacekeeping budget in the post–Cold War period. During the Cold War, the UN Security Council—responsible for authorizing peacekeeping missions—was largely unable to act, as decisions were frequently blocked by vetoes from the opposing powers, the US and Russia. Following the end of the Cold War, peacekeeping activity expanded rapidly, and between 1990 and 1991 the peacekeeping budget was the only one that has increased as a share of the global economy (Figure 6). Absent this expansion, assessed contributions as a share of global GDP would have exhibited a downward trend after peaking in the 1990s, reflecting also a shift in UN activity and mandate[11].

rather than the actual payments made. Although these contributions are legally binding under the UN Charter - persistent non-payment can result in the suspension of voting rights - many countries have accumulated substantial arrears over extended periods. Our dataset does not capture these payment shortfalls and focuses solely on the official assessment figures. For voluntary contributions, however, this discrepancy does not arise: the data only records funds that were effectively paid.

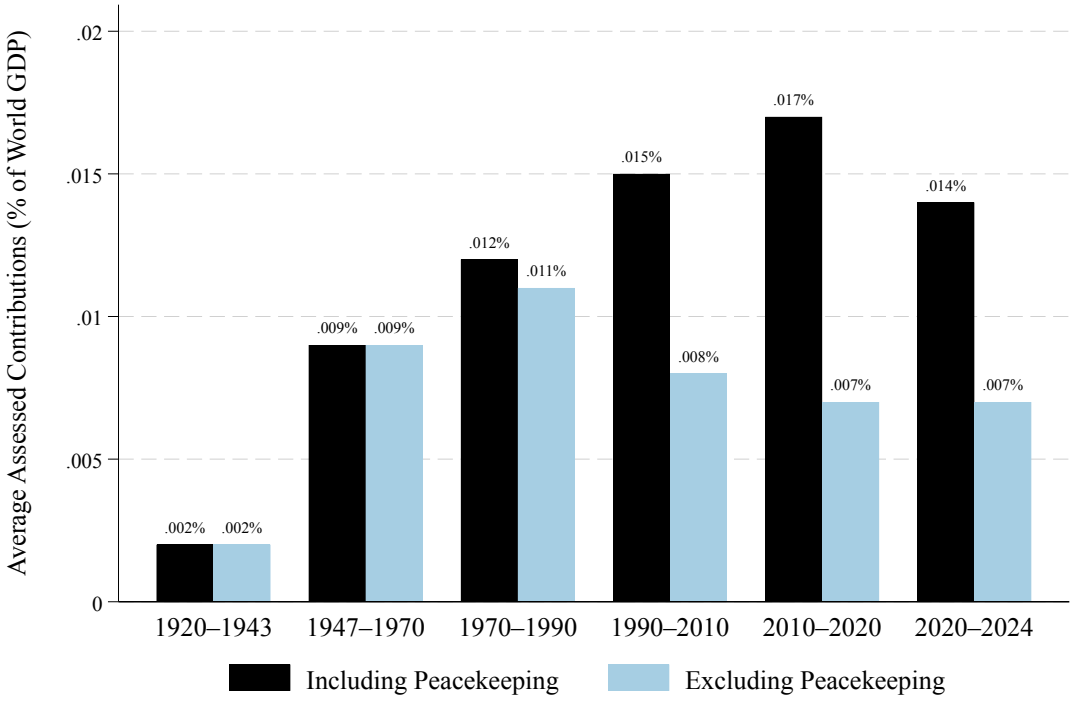
[11] Figure A.15 indeed reveals that the funding of most other individual agencies, has not kept pace with global economic growth, resulting fng marked decline in contributions as a share of world GDP. It is important to acknowledge that all figures and statistics in this paper are subject to data limitations. While the budget data for several agencies is available from its inception, data for many other specialized agencies begins only after their founding. Consequently, some reported numbers in Figure 5 and Figure 6 - may underestimate the actual budgets for the years prior to 2013, as earlier data for some agencies might be missing. For instance, our dataset includes WTO budget data only from 2010, despite the organization's establishment in 1995 (see Figure A.15).

Figure 5: Assessed UN System Contributions as a Share of Regional GDP



Assessed contributions to the UN system (regular budget, specialized agencies, and peacekeeping) as a share of regional GDP. Regions follow the World Bank classification.

Figure 6: Average Assessed UN System Contributions as a Share of World GDP



Average assessed contributions to the UN system as a share of world GDP, distinguishing between regular assessed contributions and peacekeeping contributions. Computed as the sum of all member-state contributions divided by world GDP.

2.2 The Postwar Architecture: The Creation of the Bretton Woods Institutions

The World Bank, founded in 1944 under U.S. leadership, initially aimed to foster economic stability, facilitate trade, and finance post-war reconstruction in Europe. Over time, it shifted its focus toward development financing and poverty reduction. The World Bank Group, owned by its 189 member states, comprises five institutions - the largest ones being the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), established in 1960. The IBRD lends to middle-income and creditworthy low-income countries, financed through a mix of paid-in capital and lending and investment income. The major portion of IBRD subscribed capital is callable capital (94%) serving as a guarantee rather than an actual contribution. In contrast to the IBRD, the IDA lends to the poorest countries - those with a GNI per capita below $1,335 or without creditworthiness - and is funded primarily through voluntary donor contributions, known as replenishments. It relies far less on lending and investment income, partly because most of its loans function as de facto grants.

The IMF, the second of the Bretton Woods institutions, is not a bank but functions more like a global credit union, providing financial support to countries in need. Unlike the World Bank, the IMF is accessible to all member states - rich and poor alike - offering assistance during balance of payments crises, when a shortage of foreign exchange prevents countries from meeting external obligations. It does not discriminate by income level, its focus is global, since BoP crises can affect nations regardless of economic size, and indeed, nearly all IMF members have drawn on its resources at some point (Driscoll, 1997). The IMF is primarily funded through quota subscriptions, which account for over 45% of its total resources and are paid by its 191 members in proportion to their economic weight. Additional resources stem largely from returns on the Fund's endowment.

Voting power and capital subscriptions within both the World Bank and the IMF are determined by formulas closely aligned with a country's economic size - most notably its GDP. Unlike annual contributions such as those to the UN, capital subscriptions are one-time payments that are periodically reviewed, adjusted, and increased.

For the **World Bank**, the 2015 Shareholding Review refined the dynamic formula initially adopted in 2010, resulting in the current shareholding structure:

$$(0.8 \times \text{GDP} + 0.2 \times \text{IDA})^{0.95}. \tag{1}$$

Here, GDP is calculated as a composite measure: 60% based on market exchange rates and 40% based on purchasing power parity (PPP). IDA reflects a country's contributions to the International Development Association, with an 80% weight on the three most recent replenishments and 20% on historical contributions. The exponent 0.95 serves as a compression factor, moderating disparities to help safeguard the voting power of smaller and poorer countries. Additionally, each member state receives 500 basic votes, since 5.55% of total voting power is allocated equally to all members as basic votes; the remainder 94.45% follows the formula above.

The current **IMF quota formula**, introduced in 2008, determines both financial subscriptions and

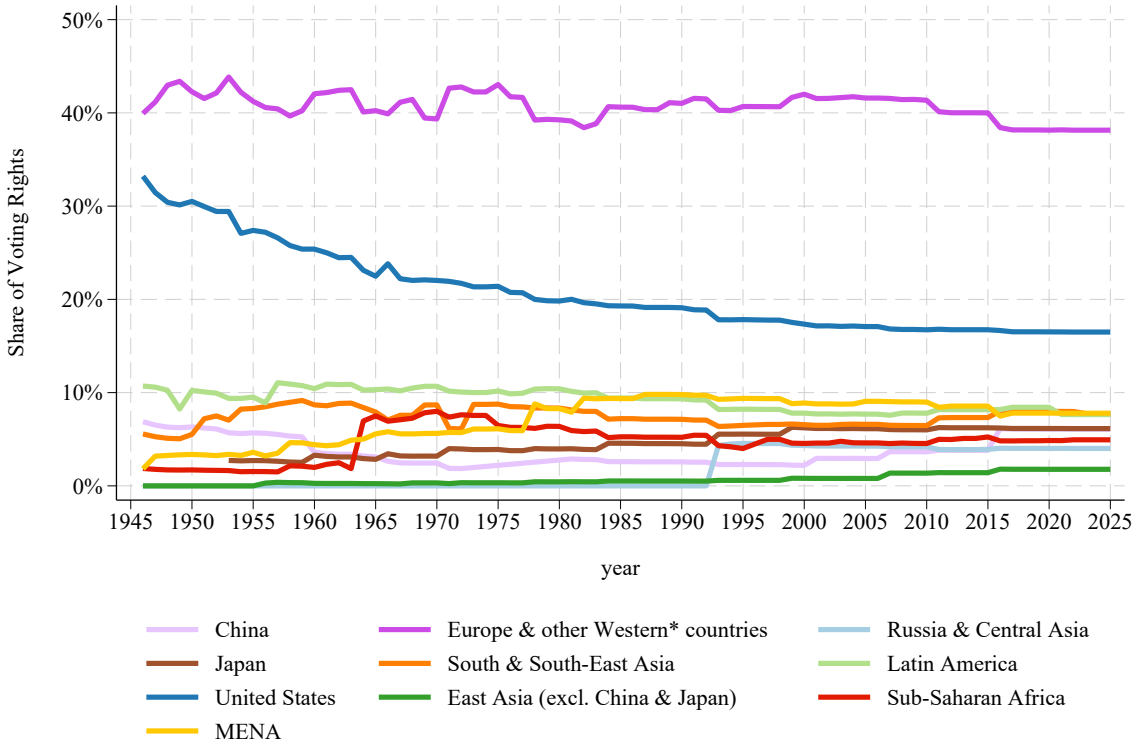
voting power using the following expression:

$$(0.50 \times \text{GDP} + 0.30 \times \text{Openness} + 0.15 \times \text{Variability} + 0.05 \times \text{Reserves})^{0.95}. \tag{2}$$

Similarly, 5.5% of total IMF voting power is allocated equally to all member states as basic votes[12]. Figure 7 depicts the distribution of IMF voting rights across world regions. Europe and other advanced Western economies jointly hold approximately 40% percent of total voting shares, reflecting a concentration of decision-making power that has remained remarkably stable since the IMF's establishment in 1945. The United States is the single largest shareholder, holding 16.5% percent of total voting rights and currently retains de facto veto power over major IMF decisions since they require 85% of votes. Although the U.S. share has declined substantially from its initial level of 33% percent at the Fund's founding, it remains sufficient to block reforms requiring a supermajority. Although formulas differ, the same pattern and US veto power is present in the World Bank structure (see Figure A.17)

In practice, capital subscription functions as vote purchases. When countries subscribed capital they get a proportional amount of votes allocated, each vote at the same dollar *price*. Given that capital subscriptions happen sporadically and that the effective funds available exceed this amount -due to investments and operations-, countries controlling the institution actually control a larger fund than the total capital subscribed, at a very cheap price -their paid-in capital-.

Figure 7: Voting Power in the IMF by Region

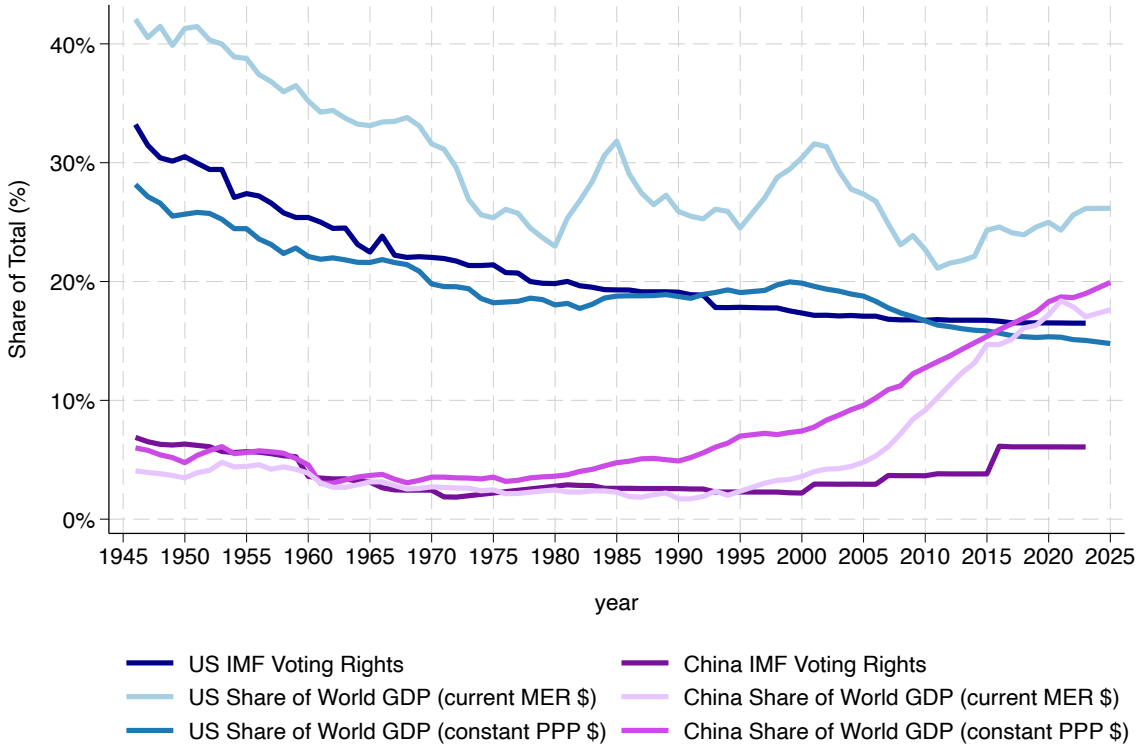


*Other Western Countries refers to North America (excluding the US) and Oceania. Please refer to Figure A.17 for the same graph for IBRD voting rights.

[12]For a detailed discussion of the quota formulas and their historical evolution, see Appendix Notes A.2 and A.3.

Importantly, IMF and World Bank quota formulas are theoretical benchmarks rather than mechanically applied rules. While both institutions provide formal mechanisms for periodic quota adjustments, these mechanisms have been used infrequently. Quota reforms require broad political consent among member states, and in practice each country can veto reductions in its relative voting power. As illustrated in Figure 8, this discretionary application of the quota formula has resulted in substantial divergence between members' voting shares and their evolving economic weight. While U.S. voting rights closely track its share of world GDP at constant 2024 PPP US dollars, China's voting share has persistently lagged behind its rapid GDP growth ever since the 1980s. This enduring misalignment between voting power and economic size has been a consistent critique from developing countries, emphasizing that existing governance structures systematically entrench the dominance of traditional high-income countries and fail to accommodate shifts in global economic development. The 2010 "Voice Reform", which entered into force in 2016, sought to address these imbalances by increasing the representation of developing countries and raised China's voting share from 3.7% to around 6.1%. Nevertheless, relative to China's position in the global economy, the reform is widely viewed as having had only a limited effect (Vestergaard and Wade, 2013, 2015). This is attributed to the fact that countries holding substantial voting power block the rise of China (Vestergaard and Wade, 2025).

Figure 8: Voting Power in the IMF and GDP for the US and China



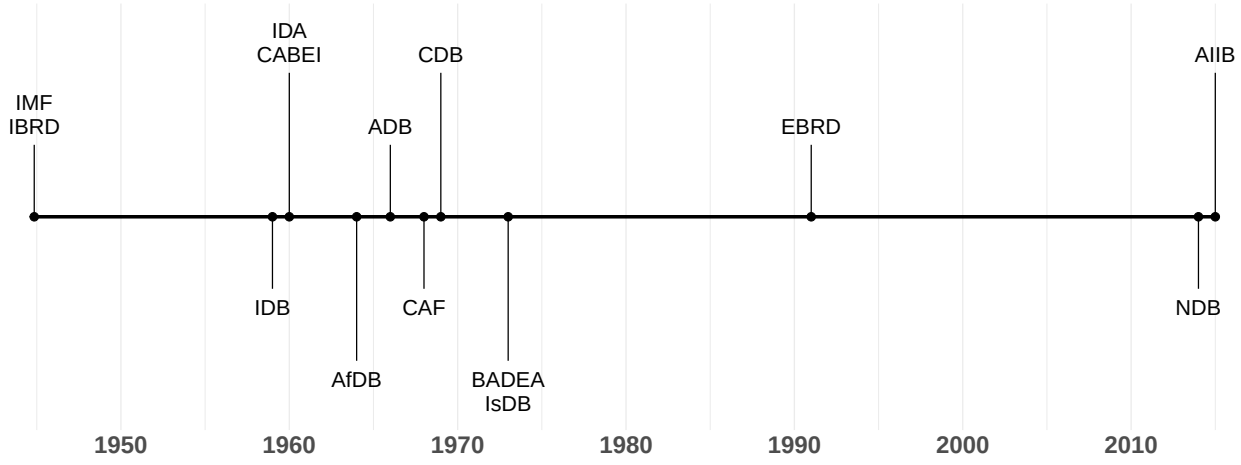
Constant PPP is indexed in year 2024. Please refer to Appendix Figure A.18 for the same graph for IBRD voting rights.

2.3 A New Layer of Global Finance: The Rise of Multilateral Development Banks

During the Cold War, the international landscape further evolved with the emergence of regional Multilateral Development Banks, reflecting the growing importance of development financing within geopolitical and economic agendas. The creation of these banks unfolded in two phases.

In the first, the U.S. and its Western allies promoted regional MDBs to solidify their economic influence: the Inter-American Development Bank (IADB), founded in 1959, was a U.S. initiative to prevent the spread of communism in Latin America following the Cuban Revolution; the African Development Bank (AfDB) emerged from decolonization efforts in 1964 to promote unity and development in Africa; the Asian Development Bank (ADB), shaped by Japan and the U.S. in 1966, aimed to counter Soviet and later Chinese influence in Asia. In the second phase, China and other emerging economies sought to challenge Western dominance. The BRICS founded the New Development Bank (NDB) in 2014 (operational from 2015) as an alternative to the World Bank and IMF, while China established the Asian Infrastructure Investment Bank (AIIB) in 2015 (operational from 2016) to expand its role in global development finance and reshape the existing financial order. Figure 9 offers a comprehensive overview of the historical evolution and establishment of MDBs. Like the World Bank, MDBs rely on paid-in and callable which together form total subscribed capital, with voting rights tied to it.

Figure 9: Timeline of International Financial Institutions



ADB	Asian Development Bank	**CAF**	Development Bank of Latin America and the Caribbean	**IDB**	Inter−American Development Bank
AIIB	Asian Infrastructure Investment Bank	**CDB**	Caribbean Development Bank	**IMF**	International Monetary Fund
AfDB	African Development Bank	**EBRD**	European Bank for Reconstruction and Development	**IsDB**	Islamic Development Bank
BADEA	Arab Bank for Economic Development in Africa	**IBRD**	International Bank for Reconstruction and Development	**NDB**	New Development Bank
CABEI	Central American Bank for Economic Integration	**IDA**	International Development Association		

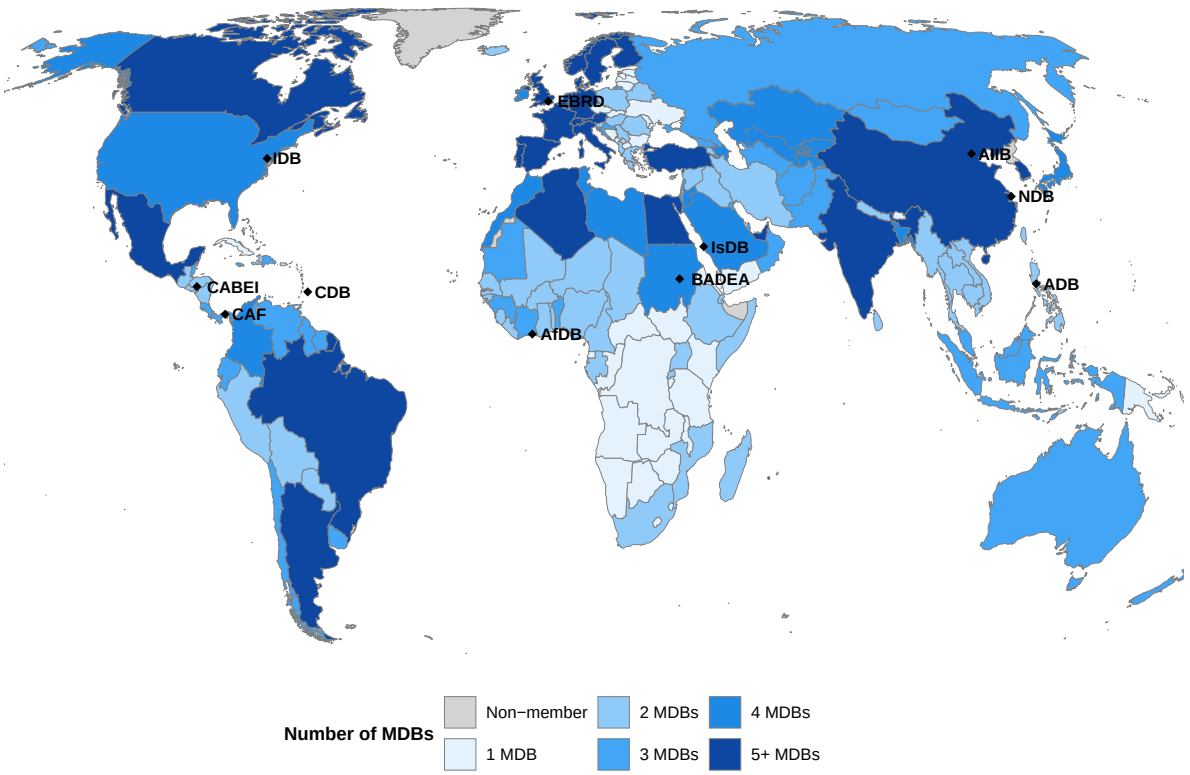
The timeline includes all multilateral development banks for which voting, capital subscription and expenditure data are available. Although not technically a bank, the IMF is included due to its similar governance structure. Detailed data coverage by institution is reported in Annex Table 3.

Despite similar institutional structures, MDBs exhibit significant differences in governance and representation (Ray, 2021) and also differ significantly in both the size and structure of their subscribed capital, as illustrated in Figure A.30 in Appendix. Particularly striking is the high paid-in capital ratio of the newly established NDB and AIIB. Unlike the IBRD and traditional MDBs, which rely more heavily on callable capital and accumulated reserves, these China- and BRICS-led banks were

designed with substantial paid-in capital from the outset to ensure rapid operational readiness and immediate lending capacity.

Membership in Multilateral Development Banks (MDBs) is global in scope: almost all countries are members of at least one of the 11 MDBs in our sample. However, the number of MDBs to which countries belong varies considerably as shown in Figure 10[13].

Figure 10: Membership Across Multilateral Development Banks



Membership data from 2023. Black diamonds indicate MDB headquarters. ADB, AfDB, AIIB, BADEA, CABEI, CAF, CDB, EBRD, IDB, IsDB, NDB.

MDB membership is particularly concentrated in North and South America, Europe, China and India, as well as parts of the MENA region with the countries with most MDB memberships being Spain (7) and China (7). By contrast, many Sub-Saharan African countries are members only of the African Development Bank (AfDB). While membership is not strictly required to access MDB financing—since institutions such as the EBRD also lend to non-member countries—it confers influence over the governance of the banks and the allocation of funds.

Differences in governance power across countries are even more apparent in Figure A.31 in the Appendix, which displays average voting shares across all 11 MDBs. The United States (5.39%), China (5.28%), and Saudi Arabia (4.60%) hold particularly large voting shares, which are 7,415 to 8,689 times larger than those of countries with the most limited MDB participation and the lowest voting shares (e.g., San Marino holds 0.00062% of global MDB voting shares). Additionally, these aggregate statistics mask the dominant positions certain powers hold in specific MDBs. The US holds approximately 30% of voting rights in the Inter-American Development Bank (IDB), while China controls 26.1% in the Asian Infrastructure Investment Bank (AIIB), giving both countries de facto

[13]Figure A.31 in the Appendix shows the average voting power across all 11 multilateral development banks.

veto power over major governance and funding decisions in their respective institutions.

3 Data

3.1 Main Sources

This paper draws on a newly constructed panel dataset that systematically compiles the annual balance sheets and governance structures of major international organizations from as early as 1920 to the present. This novel dataset covers the League of Nations, the United Nations and 55 of its specialized agencies and organisations (including the WHO, WTO ILO, UNESCO), the Bretton Woods institutions (IMF, IBRD, IDA), the European Union and 11 major regional Multilateral Development Banks (e.g., IADB, ADB, AfDB, EBRD). It provides data on contributions (both voluntary and assessed), expenses, capital subscriptions, voting quotas, loans, interests, and repayments.

A central contribution of this paper lies in the scale and depth of this data collection effort. Prior to this, no consistent UN financial data existed for the period before 2013, and no comprehensive historical dataset captured voting rights and capital subscriptions across all major Multilateral Development Banks (MDBs). Similarly, governance data for the IBRD, IDA, and IMF were not available in any structured form, and there was no publicly accessible loan data for the IMF prior to 1970[14]. This paper fills these critical gaps by assembling and harmonizing information that was previously fragmented, inaccessible, or entirely undigitized.

For instance, UN expenditure and contribution data before 2013 were retrieved through manual digitization of financial reports published under varying titles (United Nations System Chief Executives Board for Coordination, 2012; United Nations General Assembly, 1963). Similarly, data on capital subscriptions and voting quotas for all major MDBs, as well as IMF loan data prior to 1970, were extracted using historical annual reports (International Monetary Fund, 1969). No consolidated digital record existed for these documents, necessitating a substantial digitization effort. Only in the case of the World Bank (IBRD and IDA) was pre-1970 loan data available in digitized form (World Bank Group, 2025a,b). Even then, the data required extensive cleaning and restructuring to ensure comparability across institutions and time.

For the post-1970 period, the dataset uses the International Debt Statistics (IDS) database (World Bank Group, 2025c), which provides extensive information on loan disbursements, repayments, and interest payments for the Bretton Woods institutions and regional MDBs. For the most recent decade (2013–2023), country-level data on UN system expenses and contributions were obtained from the Financial Statistics database of the United Nations System Chief Executives Board for Coordination (UNSCEB, 2025a,b). A full list of the institutions, variables, and time periods covered in the dataset is provided in Appendix B.

By enabling historical and cross-institutional comparisons of governance and financial flows, this dataset addresses a major empirical gap in the study of international organizations. The persistent intransparency of many institutions - such as the Bank for International Settlements (BIS), which

[14]Aside from Vreeland's dataset, which however is limited to program arrangements and omits disbursements of other loans.

discloses neither voting rights nor country-level financial data (Pinto, 2020) - raises serious concerns about democratic accountability. While this paper takes an important step toward a comprehensive dataset of International Organizations (IGOs), it also highlights the urgent need for all IGOs to adopt stronger transparency standards and publish comprehensive and detailed data on their operations and governance.

3.2 Additional Sources

In addition to the main dataset, GDP and population data are obtained from the World Inequality Database (see Moshrif et al. (2024) for the technical note). The list of independent states is drawn from Gleditsch and Ward (1999). Data on free trade agreements (FTAs), bilateral trade, and gravity-related variables come from CEPII's gravity database (Conte et al., 2021), while bilateral investment treaties (BITs) are obtained from EDIT (Alschner et al., 2021), as provided by Pellegrino et al. (2025). Defence alliance data are taken from the Correlates of War project (Gibler, 2008). Democracy and autocracy scores are sourced from the Polity V database (Marshall and Gurr, 2020), and the ideology of the party in executive government is from DPI2020 (Scartascini et al., 2021). Data on International Cooperation Agreements is taken from ICAD (Acharya et al., 2023; Estevadeordal and Nievas, 2024) Finally, measures of institutional quality are taken from the World Bank's Worldwide Governance Indicators (Kaufmann et al., 2011).

4 Funding, burden sharing and vote purchases

This section examines how institutional asymmetries translate into effective power within international organizations, focusing on the link between financing and voting rights in the provision of global public goods (GPGs). The central object is the mapping from economic capacity to voting power, and how this mapping shapes both contributions and influence.

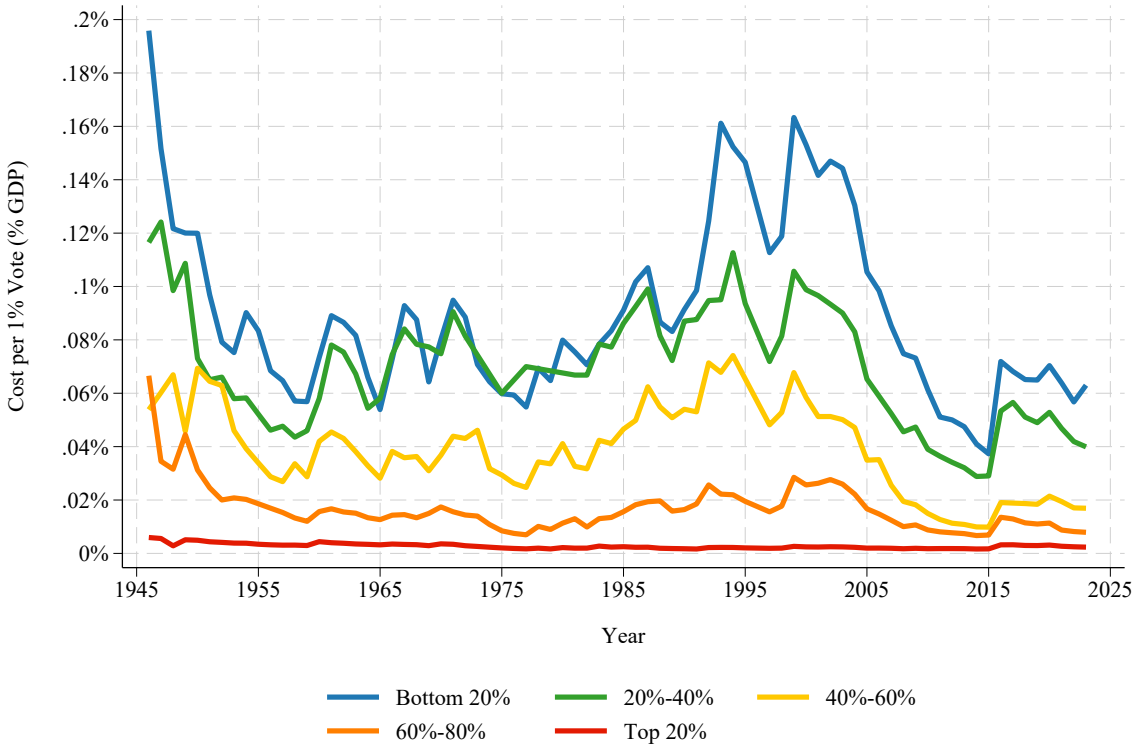
A benchmark result in the collective choice literature on voluntary GPG provision is that larger countries contribute more as a % of GDP, while smaller countries free-ride. This pattern, known as the *exploitation of the great by the small*, was first formalized in the context of the NATO alliance by Olson and Zeckhauser (1966). The mechanism is straightforward: larger countries internalize a greater share of the benefits and therefore optimally provide a disproportionate share of the public good.

The institutional setting studied here differs in a key respect: contributions are not voluntary but required for membership, often with formal or implicit penalties for non-compliance. Nevertheless, the provision of GPGs remains central, and the logic of burden sharing continues to apply—albeit through a different channel. In particular, institutions such as the IMF and the World Bank embed a system in which voting power is effectively purchased through financial contributions at administratively determined prices. Because these prices do not scale proportionally with countries' economic size, the cost of acquiring voting power differs systematically across countries.

This asymmetry is quantitatively large. In the IMF, countries in the bottom 20% of the global income distribution must contribute approximately 26 times more, relative to their GDP, to obtain 1% of

voting power than countries in the top 20% (Figure 11). A similar, though slightly smaller, disparity exists in the World Bank, where the corresponding ratio is around 21 (Figure A.33). These differences imply that voting power is substantially cheaper, in terms of economic capacity, for richer countries.

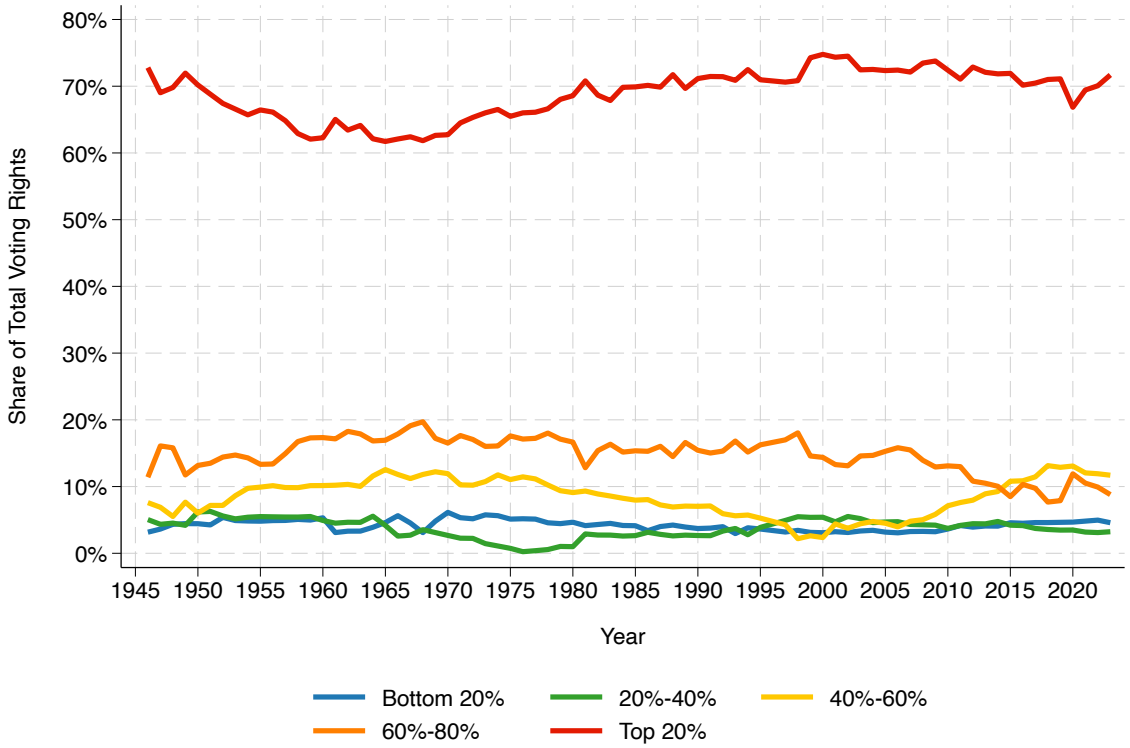
Figure 11: IMF Cost per Vote as % of GDP



Cost per 1% of voting power, expressed as a share of GDP, plotted across the global income distribution. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

The cost of votes relative to GDP therefore provides a natural metric of institutional power asymmetry. Importantly, this structure is not an unintended by-product of institutional design but the outcome of deliberate choices by founding members, who determine both contribution rules and voting allocations. As a result, the system embeds a systematic advantage for wealthier countries in the acquisition of influence. This advantage is reflected in the concentration of voting power: countries in the top income quintile collectively hold close to 70% of total IMF voting shares (Figure 12. See Figure A.32 for World Bank).

Figure 12: IMF Voting Power by Income Quintiles

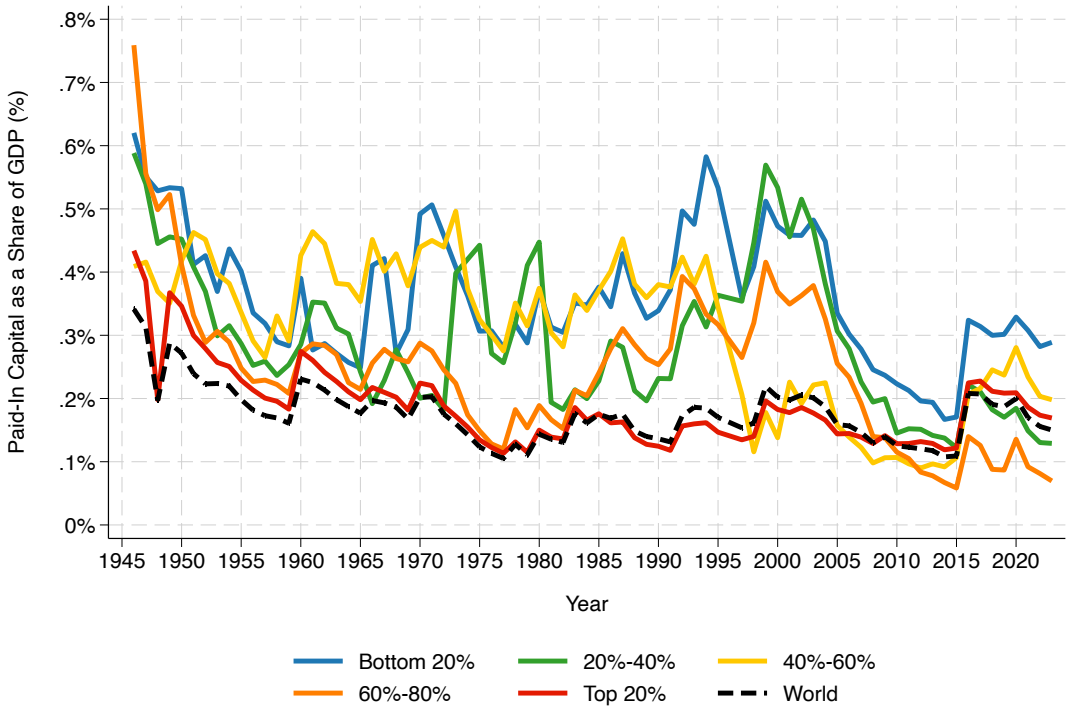


Share of total IMF voting power held by each income quintile over time. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

A direct implication is that the burden of financing the institution, when measured relative to economic capacity, is regressive. Richest countries, despite holding greater voting power, contribute less as a % of GDP than poorest countries. This reverses the standard logic of voluntary public good provision and instead generates what can be described as an *exploitation of the poor by the rich* (Figure 13)[15].

[15]See Figure A.34 for WB IBRD.

Figure 13: IMF Paid-In-Capital Stock as a Share of GDP (%) by Income Quintiles



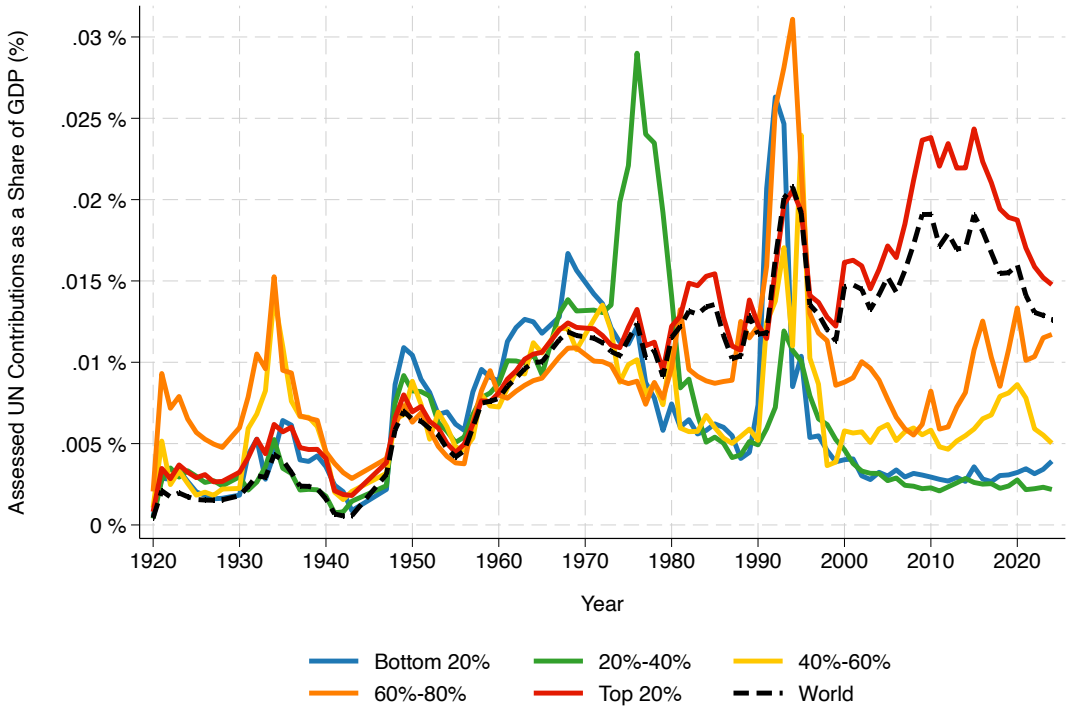
IMF paid-in capital stock as a share of GDP for each income quintile over time. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Egalitarian representation results in progressive burden sharing . It is often argued that granting disproportionate influence to large contributors is necessary to secure their participation in international institutions. In this view, asymmetries in voting power or governance are the price of cooperation, ensuring that countries providing a larger share of resources retain sufficient control over decision-making (see, e.g., Barrett (2003); Keohane (1984)). However, more democratic institutional arrangements—such as the United Nations, where formal voting follows a one-country, one-vote rule—display markedly different patterns from the IMF and the World Bank, while still maintaining the participation of high-income countries.[16] In addition, in the UN system, financial contributions are largely decoupled from voting power.

Figure 14 shows that, until around 1970, countries across income groups contributed relatively similar shares of GDP to the UN system. Over the past half-century, however, a clear divergence has emerged: contributions from lower-income groups have declined sharply—particularly for the bottom 40%—while contributions from high-income countries have increased as a share of GDP. This pattern is consistent with a progressively structured burden-sharing system, which can be interpreted as an instance of *exploitation of the great by the small*.

[16]Virtually all UN members are also IMF members; exceptions are extremely limited and largely reflect idiosyncratic political circumstances, like Cuba

Figure 14: Assessed UN System Contributions as a Share of GDP (%) by Income Quintiles



Assessed UN system contributions as a share of GDP for each income quintile over time. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

The contrast with GDP-weighted systems such as the IMF and the IBRD is stark. Figures A.37, A.38, and A.40 compare average capital subscriptions (for the IMF and IBRD) and assessed contributions (for the UN) as shares of GDP. In the IMF and IBRD, the burden placed on lower-income countries is systematically higher relative to their economic capacity, a pattern that is stable across time. By contrast, the UN exhibits relatively equal burden-sharing from 1945 to 1999, followed by a shift toward a more progressive structure after 2000, in which lower-income countries contribute a smaller share of GDP.[17]

What explains this divergence across institutions? The answer lies in their governance structures. In the IMF and IBRD, voting power is closely tied to financial contributions through GDP-like weighting schemes. This gives high-income countries substantial influence over policy and reform. Because these countries both benefit from and control the existing allocation of power, they have limited incentives to support changes that would equalize burden-sharing. Reforms that would align quotas more closely with current global economic weights or introduce needs-based criteria have repeatedly faced resistance from countries that would lose influence. This resistance is institutionalized through governance rules requiring broad consent for quota changes, effectively granting key shareholders veto power over redistributive reforms.

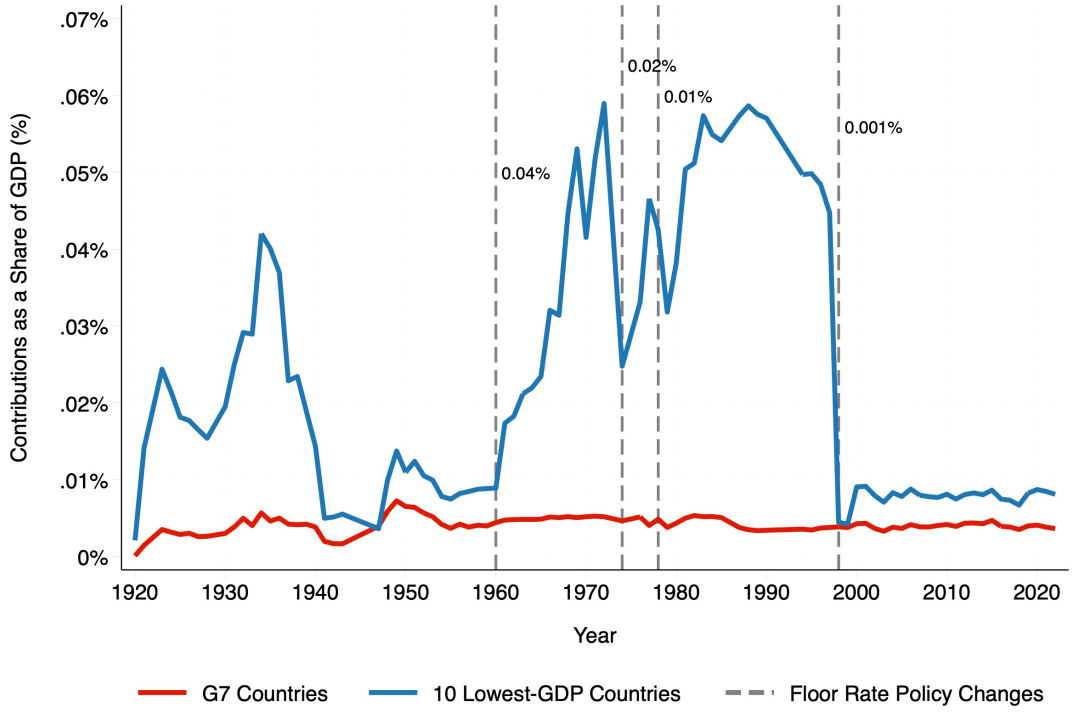
[17] Figure A.39 and Figure A.40 in the Appendix show average paid-in capital and assessed contributions as a share of GDP by income quintiles for IDA and the UN system. Average paid-in capital for the IMF and IBRD by income quintiles are shown in Appendix Figures A.37 and A.38.

By contrast, the UN has historically sought—albeit imperfectly—to implement a capacity-to-pay principle, linking contributions to countries' economic ability. Nevertheless, its financing system also reflects political compromises. In particular, the use of floor and ceiling rates[18] introduces deviations from a strict capacity-to-pay rule by imposing minimum and maximum contribution thresholds regardless of economic size.

As a result, prior to the late 1990s, the system exhibited substantial regressivity at the bottom: the ten poorest countries contributed significantly more, as a share of GDP, than G7 countries. At its unequal peak in 1989, the poorest ten contributed approximately 17 times the GDP share of the G7. In response to these inequities, the UN gradually reformed its assessment structure. The floor rate—originally introduced in 1960 to enforce minimum participation—was reduced to 0.02% in 1974, 0.01% in 1978, and eventually to 0.001% in 1998. While earlier adjustments had limited effects, the 1998 reform substantially reduced the burden on the poorest countries (see Figure 15).

Crucially, this reform trajectory was enabled by the UN's institutional design. Under the one-country, one-vote rule in the General Assembly, smaller and lower-income countries possess formal voting power equal to that of larger economies. Although decisions are often reached by consensus, this structure shifts bargaining power toward a broader coalition of countries, facilitating reforms that move the system closer to a progressive burden-sharing arrangement.

Figure 15: LoN and UNGB Contributions by Low-GDP Countries: Floor Rate Trends



Each year, the ten countries with the lowest GDP among all League of Nations or United Nations member states are included. In 2022, these consist primarily of small island states - Dominica, Kiribati, the Marshall Islands, Micronesia, Nauru, Palau, Samoa, São Tomé and Príncipe, Tonga, and Tuvalu. Historically, it also included other low-income countries such as Afghanistan, Bolivia, Liberia, Iraq, the Democratic Republic of Congo, and Mali.

[18] In practice, the ceiling rate primarily binds the United States. See Figure A.10, which shows that the US contributes the least as a share of GDP among G7 economies.

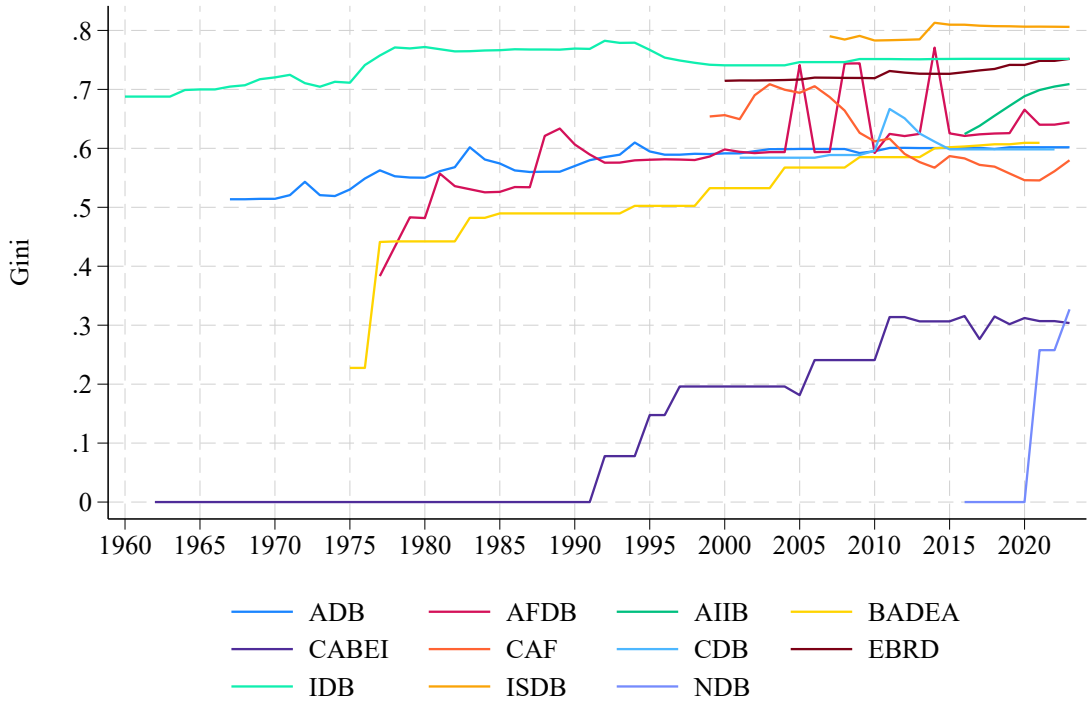
4.1 Regional institutions: Multilateral Development Banks vs European Union

We next compare multilateral development banks (MDBs) with the European Union (EU), two settings in which countries jointly finance collective objectives but under markedly different governance rules.

We begin with the distribution of voting power. Figure 16 reports the Gini coefficient of voting shares across MDBs. This measure summarizes the extent to which control over the institution is concentrated among a subset of countries. A value close to zero corresponds to an equal distribution of votes, while higher values indicate increasing concentration. What we observe is a persistently high level of inequality in voting power across all MDBs. In other words, institutional power is not broadly shared: it is tightly concentrated among a small group of large shareholders.

This concentration is not a transient feature. Despite successive capital increases and governance reforms, there is little evidence of a meaningful decline in voting inequality over time. The reason is structural. Voting power in MDBs is directly linked to capital subscriptions, which themselves reflect both current economic size and historical participation. As a result, initial asymmetries tend to persist and even reinforce themselves over time. Countries that entered with large shares retain them, and incremental adjustments rarely overturn the overall distribution.

Figure 16: Voting Power Concentration in Multilateral Development Banks



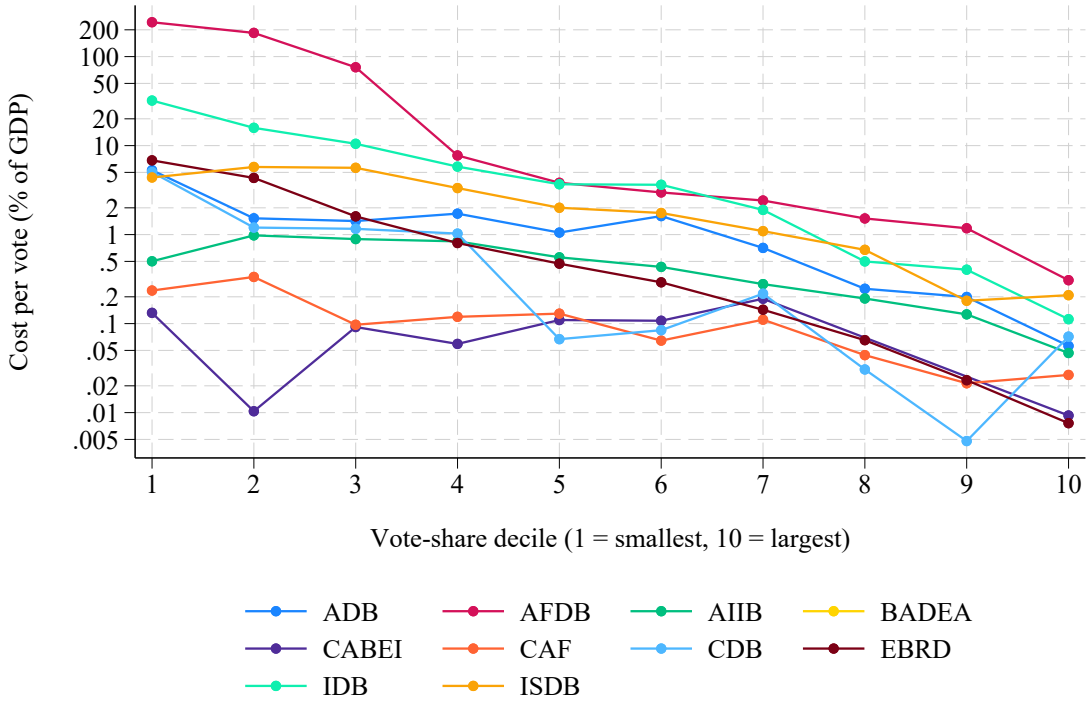
Gini coefficient of the distribution of voting power across member countries for each multilateral development bank, computed annually. A higher Gini indicates greater concentration of voting power. MDBs included: IBRD, IDA, IMF, AfDB, ADB, AIIB, EBRD, IDB, IsDB, NDB, and CAF.

A second dimension concerns the cost of acquiring influence. Figure 17 plots the cost per unit of voting power—measured as the contribution required to obtain a 1 percentage point increase in voting share, expressed as a % of GDP—across the distribution of voting power. Here again, a striking regularity emerges: the cost of votes declines sharply with voting power. Countries with the largest

voting shares face the lowest cost of influence relative to their economic capacity, while those with small shares face substantially higher costs.

Taken together, these two facts describe a coherent system. Voting power is highly concentrated, and the marginal cost of acquiring that power is decreasing in economic size. This implies that the institutional structure is not only unequal but also self-reinforcing: countries that already hold more influence can expand or maintain that influence at a lower relative cost. In this sense, MDBs combine two mechanisms—concentration and regressive pricing—that jointly amplify asymmetries in effective power.

Figure 17: Cost per Vote as % of GDP Decreases with Voting Power



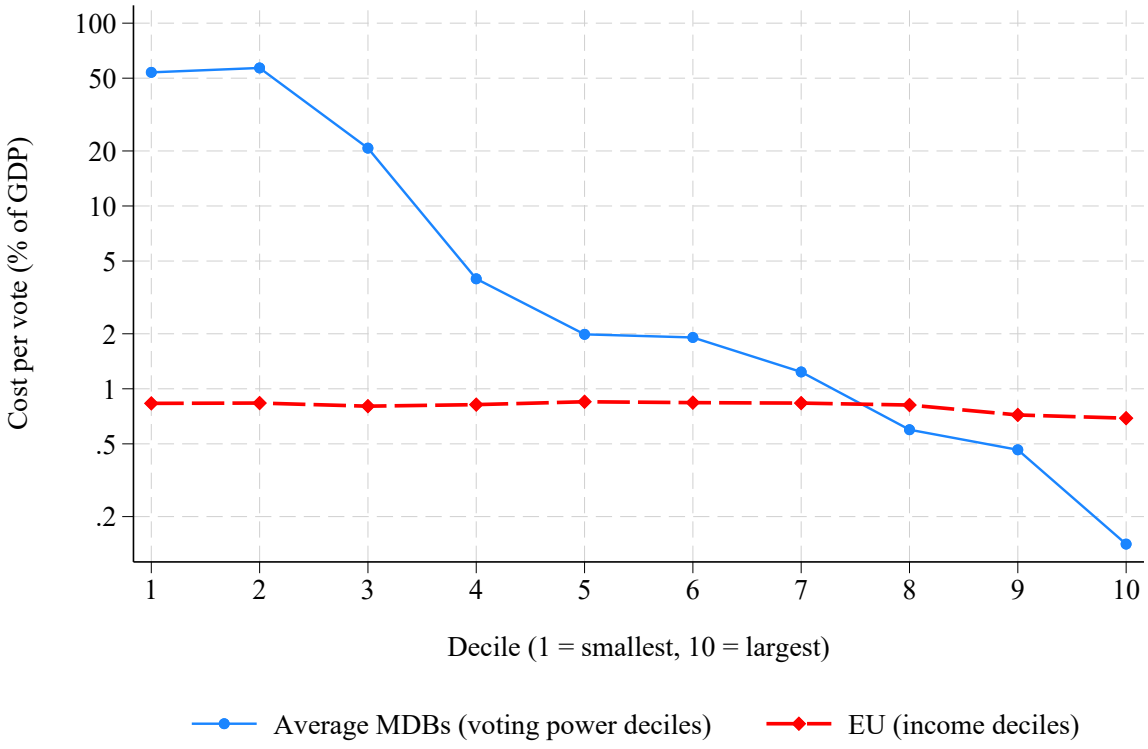
Average cost of acquiring 1% of voting power, expressed as a share of GDP, plotted by decile of voting power. Countries are grouped into deciles based on their voting share within each MDB. Averages are computed across all years and all MDBs.

The European Union provides a useful counterpoint. Figure 18 compares contribution patterns across the distribution of GDP per capita, combining MDB evidence with EU data. In contrast to the steep gradient observed for MDBs, the EU displays a remarkably flat relationship between contributions (as a % of GDP) and income levels. Countries across the income distribution contribute similar shares of their economic output, with no systematic decline for richer members.

This difference reflects a distinct institutional logic. In the EU, financial contributions are not linked to voting power. Quite differently, the EU is governed by a system in which the European Commission adopts proposals by simple majority of Commissioners (one per member state, one vote each), the European Parliament decides by majority of Members elected broadly in proportion to population, and the Council of the European Union adopts legislation mainly by qualified majority voting requiring 55% of member states representing at least 65% of the EU population (with unanimity in some areas). While larger economies might be able to exert greater influence in practice the translation from

economic size to formal power is far less mechanical than in MDBs. At the same time, the EU budget is designed around a capacity-to-pay principle, with contributions largely proportional to national income and complemented by redistributive spending toward lower-income regions.

Figure 18: Across the EU GDP per Capita Distribution, Contributions Are Stable



Cost per 1% of voting power (for MDBs) or contributions (for the EU) as a share of GDP, plotted by decile of GDP per capita. The EU line shows financial contributions to the EU budget as a share of GDP. MDB averages are computed across all years and all MDBs. Countries grouped into deciles based on GDP per capita within each institution.

As a consequence, the EU does not exhibit the same regressive pricing of influence observed in MDBs. There is no systematic discount in the cost of participation for richer countries, and the burden of financing the system is distributed more evenly across members.

Taken together, these findings point to two distinct equilibria in the design of international institutions. In MDBs, financial contributions translate directly into voting power, and this mapping generates both concentrated control and a declining cost of influence. In the EU, by contrast, the link between financing and power is weaker, and burden sharing follows a more proportional—or even progressive—pattern.

More broadly, this comparison illustrates how institutional rules shape the relationship between economic capacity and political influence. When influence can be effectively purchased at decreasing marginal cost, as in MDBs, the system tends to entrench and amplify initial inequalities. When this link is loosened, as in the EU, burden sharing becomes more balanced and the distribution of power less tightly tied to economic size (at least officially). These differences reflect alternative political equilibria regarding how international cooperation balances efficiency, representation, and equity.

5 Funds allocation

We now turn from the financing side to the allocation of resources. The central question is straightforward: once funds are collected, where do they go, and to what extent does the global public system operate as a redistributive mechanism across countries?

At a broad level, the answer appears reassuring. The system does generate redistribution: richer countries contribute more in absolute terms, while poorer countries receive the bulk of disbursements. In the current period, virtually all resources from global international organizations are directed toward developing countries. This pattern, however, is historically contingent rather than structural. In earlier decades, a non-negligible share of resources was allocated to advanced economies. A notable example is the support provided to the United Kingdom during the sterling crises of the 1960s, when the IMF devoted substantial resources to sustain the Bretton Woods exchange rate system.[19] Importantly, throughout this paper we focus on IMF programs and lending operations, excluding SDR allocations, which follow a fundamentally different distributional logic.[20]

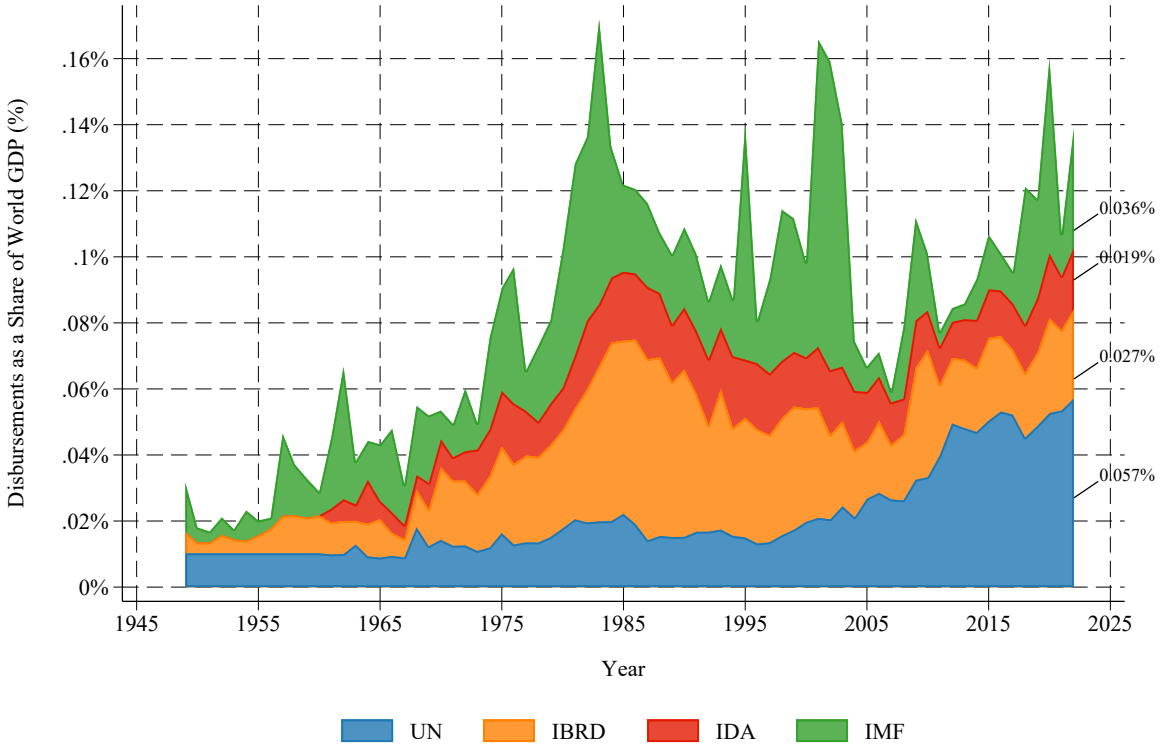
Figure 19 shows the evolution of disbursements to developing countries across institutions. Two main features stand out. First, the overall scale of transfers remains modest when expressed relative to world output. Total disbursements amount to approximately 0.14% of world GDP. This is small compared to domestic fiscal redistribution within countries, highlighting a fundamental limitation of the global public system: it operates with very limited aggregate resources relative to the size of the world economy (see Figure A.50 for total disbursements).

Second, the composition of these flows varies across institutions and over time. The United Nations system accounts for the largest share, around 0.057% of world GDP, followed by the World Bank (IBRD and IDA combined) at approximately 0.046%, and the IMF at about 0.036%. These shares have not been constant. During the 1980s and 1990s, the World Bank was the dominant provider of development finance. Since the 2008 global financial crisis, however, the relative importance of the UN system has increased.

[19] The IMF, together with G10 central banks, devoted substantial resources in the 1960s to defend sterling under the Bretton Woods system, including large stand-by arrangements (notably in 1961 and 1964–67). These interventions provided temporary support but ultimately failed to restore confidence, culminating in the November 1967 devaluation of the pound from $2.80 to $2.40. See Capie (2010) and Bordo (1993) for detailed accounts.

[20] General SDR allocations require approval by the IMF Board of Governors with an 85% supermajority of total voting power. Given that the United States holds approximately 16.5% of votes, it effectively has veto power over new allocations (Truman, 2023; Weisbrot and Main, 2020; Weisbrot et al., 2025). Once approved, SDRs are distributed in proportion to IMF quota shares, implying that the largest share accrues to advanced economies with limited need for additional reserves. For instance, reserve-currency issuers received nearly two-thirds of the 2021 allocation and more than ten times the amount allocated to Africa (Lazard, 2022; Plant, 2025). See Ocampo (2017) and Clark and Polak (2004) for broader discussions of SDR reform. Appendix Note A.4 provides further details.

Figure 19: Disbursements to Developing Countries by Institution (% World GDP)



Stacked area chart of annual disbursements to developing countries by institution (IBRD, IDA, IMF, UN system), expressed as a share of world GDP. Disbursements include IBRD and IDA loans, IMF purchases, and UN system expenditures.

5.1 Strategic allocation

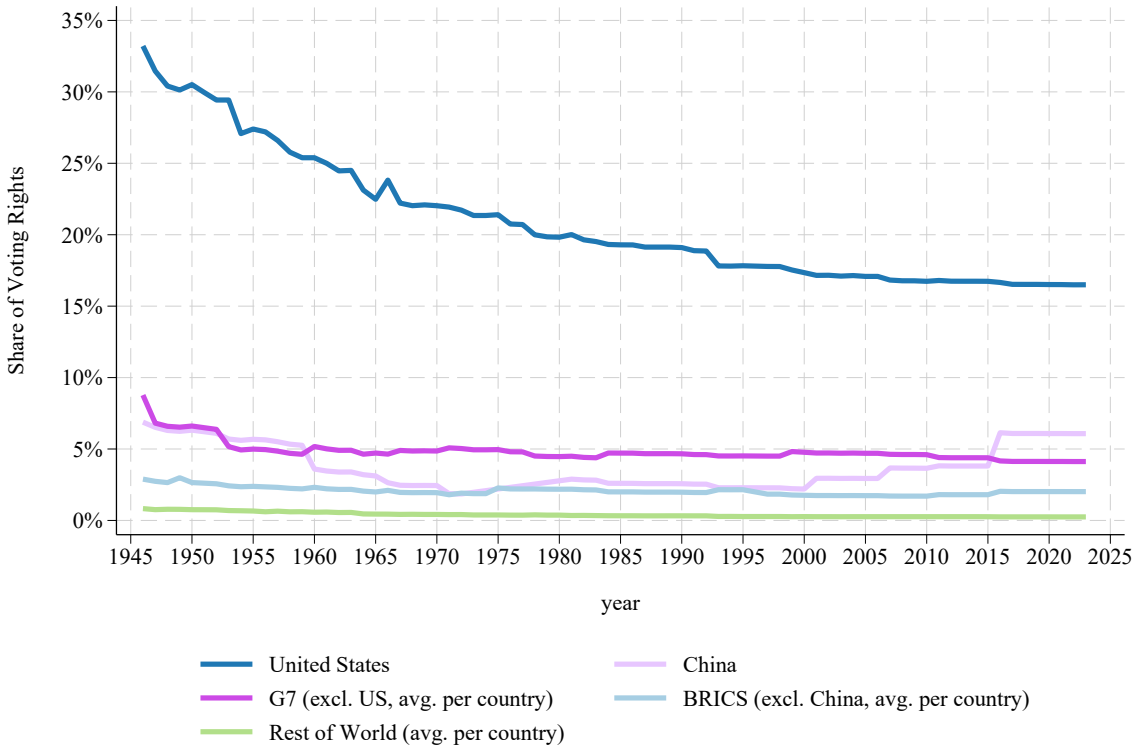
Beyond aggregate magnitudes, the key question is how allocation decisions are made. Resources available to international organizations are the outcome of collective contributions, which resemble a form of international taxation: countries contribute according to rules that depend, explicitly or implicitly, on their economic capacity. In that sense, the system shares some similarities with domestic fiscal systems. The analogy, however, breaks down at the level of governance. In national settings, redistribution takes place within democratic institutions where voting rights are not directly tied to tax contributions. By contrast, in international organizations, the allocation of funds is inherently linked to institutional design. Voting power—and therefore influence over allocation decisions—is determined by rules that typically assign greater weight to larger financial contributors.

This raises a natural question: to what extent do allocation decisions reflect the preferences of the most powerful member states? If voting power is concentrated, and if influence over decisions follows that concentration, then one should expect a systematic bias in favor of countries that are economically or geopolitically aligned with dominant members.

To examine this question, we focus on the role of hegemonic actors within each institution. For the Bretton Woods system, we consider the G7 countries, which collectively hold a dominant share of voting power—around 41% in the IMF (Figure 20). For the United Nations, we focus on the permanent members of the Security Council: China, France, Russia, the United Kingdom, and the

United States. For multilateral development banks, we identify the top 10% of members by voting power within each institution and year. This approach reflects the well-documented role of a small number of powerful countries in shaping institutional outcomes, and avoids imposing the unrealistic assumption that influence is proportional to formal voting shares.[21]

Figure 20: IMF Voting Power: US, China, G7, BRICS, and Rest of World



G7 and BRICS exclude the US and China respectively. G7: Canada, France, Germany, Italy, Japan, UK. BRICS: Brazil, India, Russia, South Africa. Lines for G7, BRICS, and RoW show average vote share per country.

We study the relationship between disbursements and geopolitical affinity along two dimensions. First, we consider stable and institutionalized relationships, such as formal defence alliances, Free Trade Agreements (FTAs), and Bilateral Investment Treaties (BITs) between recipient countries and hegemonic members. Second, we use a more flexible measure of alignment based on International Cooperation Agreements (ICAs), which capture a broader and time-varying notion of bilateral engagement.[22]

Across all measures and specifications, a consistent pattern emerges. In institutions where voting power is concentrated, geopolitical alignment with hegemonic members is a strong predictor of disbursements. Countries that are more closely aligned—through formal agreements or broader cooperation—receive systematically more funding. By contrast, in more democratic settings, such as the UN, this relationship is absent, and allocation patterns appear more evenly distributed across countries. While we take several steps to address endogeneity concerns, these results should be

[21] For instance, Australia holds 1.3% of IMF voting power, but—given the Fund's governance structure—it does not decide on 1.3% of the resources allocated.

[22] ICAs encompass a wide range of agreements, including student exchanges, research cooperation, and environmental partnerships (see Acharya et al. (2023); Estevadeordal and Nievas (2024)).

interpreted as robust evidence of the role of power in shaping allocation outcomes, rather than as strictly causal estimates.

These findings suggest that, although the global public system generates net transfers from richer to poorer countries, the allocation process is not neutral. In institutions with concentrated voting power, allocation decisions reflect the preferences and strategic interests of dominant members. In more democratic institutions, outcomes are more likely to reflect broader coalitions. Redistribution at the global level is therefore mediated by institutional governance: the same pool of resources can generate different allocation patterns depending on who holds decision-making power.

To quantify these relationships, we estimate a Poisson pseudo–maximum likelihood (PPML) model, following best practices in the gravity literature (Santos Silva and Tenreyro, 2006). PPML accommodates the large number of zero disbursement observations without ad hoc transformations and yields consistent estimates under general heteroskedasticity. Importantly, zero disbursements are informative in this context, as they reflect an active decision by institutions not to allocate funds to certain countries.

In the main specifications, we include *year fixed effects* to absorb global shocks—such as the end of the Cold War, the Global Financial Crisis, and COVID—as well as broader structural trends in globalization and international governance. The analysis focuses on cross-country variation, examining whether countries with closer ties to hegemonic members receive systematically more funding than others. For this reason, country fixed effects are excluded from the baseline specification, as they would absorb all cross-country variation. Specifications including country fixed effects (Appendix Tables A.9–A.13) yield coefficients of the same sign but with reduced statistical significance, consistent with a weaker within-country signal.

Baseline specification:

$$\text{Loans}_{i,t} = \exp\left(\beta_0 + \beta_1 \text{Defence Alliance}^{H}_{i,t} + \beta_2 \text{FTA}^{H}_{i,t} + \beta_3 \text{BIT}^{H}_{i,t} + \delta C_{i,t} + \zeta_t\right) + \epsilon_{i,t} \tag{3}$$

where H denotes the relevant hegemonic group (G7 for Bretton Woods institutions, Security Council for the UN, and the top 10% of members by voting power for MDBs). $\text{Loans}_{i,t}$ represents disbursements (in USD) to country i in year t. $\text{Defence Alliance}^{H}_{i,t}$ is a binary indicator equal to one if country i has a formal defence alliance with any member of H, and $\text{FTA}^{H}_{i,t}$ and $\text{BIT}^{H}_{i,t}$ are defined analogously.

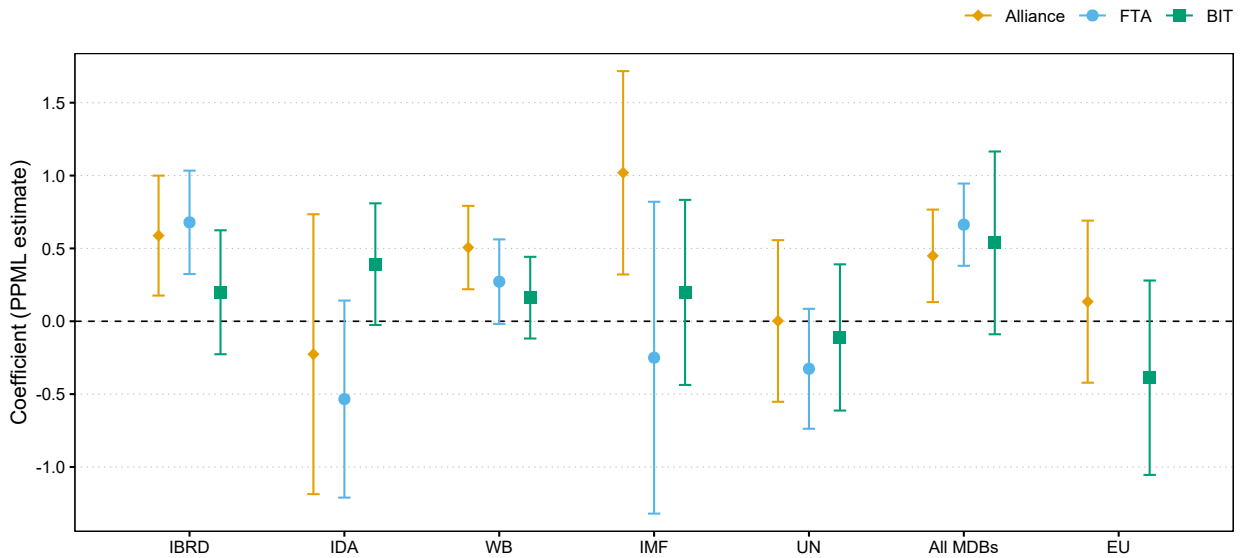
The vector $C_{i,t}$ includes standard economic controls such as log GDP and log population. In the appendix we report additional specifications including controls for total trade and trade with H, total FDI and FDI from H, total ODA and ODA from H, distance and colonial ties, relations with BRICS countries, democracy scores, executive ideology, and institutional quality indicators (Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption) (Appendix Tables A.4–A.8). These controls address the possibility that more economically vibrant or better-governed countries are both more likely to align with hegemonic members and to receive funding. They also address the possibility of left-wing populist governments self selecting themselves out of the recipient pool. Results remain robust across specifications.

Figure 21 reports the PPML estimates for the three alignment indicators—defense alliance, FTA, and BIT with hegemonic states—across all institutional outcomes. A clear pattern emerges. Defense alliances are the strongest and most consistent predictor of allocation. Countries allied militarily with a G7 member receive substantially more resources: approximately $\exp(0.588) - 1 \approx 80\%$ more IBRD lending, $\exp(0.506) - 1 \approx 66\%$ more total World Bank disbursements, and $\exp(1.019) - 1 \approx 177\%$ more IMF purchases, all significant at the 1% level. FTAs further increase IBRD lending but are not significant for the IMF. By contrast, IDA displays no meaningful association—if anything, coefficients are negative—consistent with its rule-based Performance Based Allocation framework.[23] The United Nations similarly shows no systematic relationship between alignment and disbursements.

The contrast is particularly sharp when pooling non-Bretton Woods MDBs. In this case, all three indicators enter positively and significantly. Defense alliances, FTAs, and BITs are all associated with higher disbursements. The BIT coefficient is especially notable: while BITs are not significant in Bretton Woods institutions or the UN, they are strongly associated with lending across the broader MDB universe, suggesting that investment ties capture a form of strategic proximity that is systematically rewarded in these institutions.

For the European Union, we compare operating expenditure allocated to member states other than France, Germany and Italy, with alignment measured relative to these three countries. Alliance coding incorporates official NATO membership dates. The specifications include log GDP and log population, with standard errors clustered by country.

Figure 21: Strategic Interests in Allocation



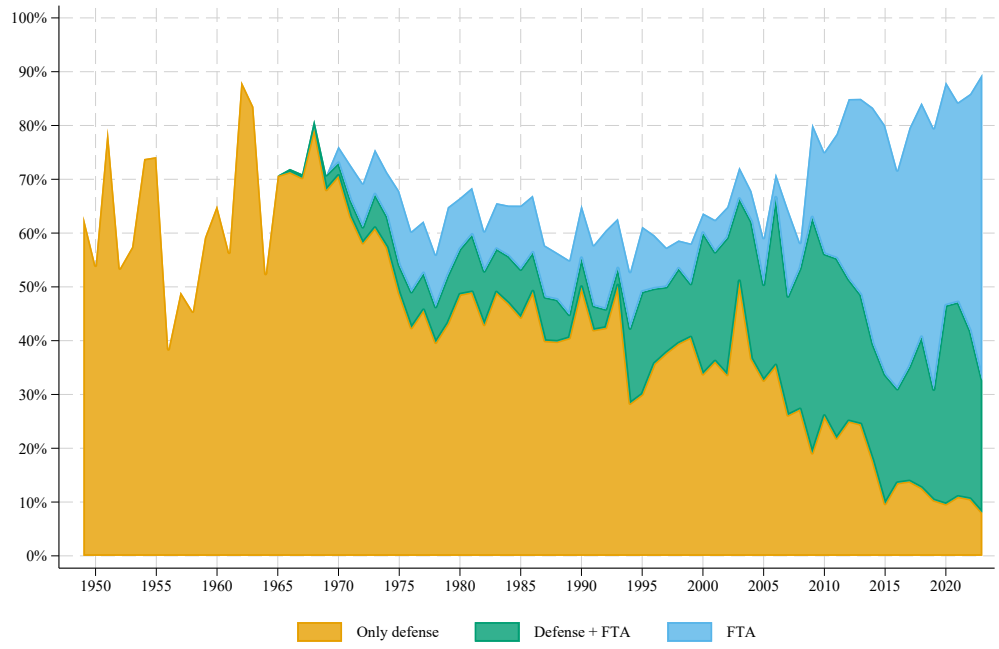
PPML coefficients with log GDP and log population controls. Points and whiskers show estimates and normal 95% confidence intervals. IBRD, IDA, WB, IMF and UN use year fixed effects and country-clustered standard errors. Pooled MDBs use MDB×year fixed effects and two-way clustering by country and MDB. EU outcomes are operating expenditure among members excluding France, Germany and Italy, 1976–2020 ($H = \{FR, DE, IT\}$; 664 observations, 25 country clusters). The EU specification includes year fixed effects. No country fixed effects are included in this figure. EU FTA status is constant, so its coefficient is not identified and no point is shown. EU alliance coding incorporates official NATO membership dates.

These coefficient estimates translate into economically large differences in allocation patterns. Figure

[23] IDA allocations are determined by a largely mechanical formula in which each country's share is proportional to a performance rating (CPIA and governance) raised to a power and multiplied by population, then divided by income per capita (also with an exponent), with periodic updates of the inputs and parameters by the World Bank rather than case-by-case discretion.

22 illustrates this for IBRD lending. In 1970, close to 67% of disbursements were directed to countries holding a defense alliance with at least one G7 member. This share remained around 50% from the mid-1970s through 2012, before declining to roughly 40% in recent years. Over the same period, the expansion of FTAs—particularly since the 1990s—has increased the share of lending directed to FTA partners. Countries with FTAs alone account for nearly 50% of IBRD disbursements, and this share rises further when combined with defense alliances.

Figure 22: ~60% of WB IBRD Funds to Developing Countries Go to G7 Friends



Stacked area chart of IBRD disbursements to developing countries, decomposed by whether the recipient country has a defence alliance, a Free Trade Agreement (FTA), both, or neither with any G7 country. Shares computed annually over total IBRD disbursements to developing countries.

Table 1 provides a complementary perspective by comparing the share of funds received by aligned countries with their shares in population, GDP, and number of recipient countries. The concentration of lending among aligned countries is particularly pronounced in GDP-weighted institutions. Between 2010–2023, 82% of IBRD lending went to G7-aligned countries, which account for only 53% of the eligible population and 34% of countries. The IMF displays an even sharper pattern: 68% of lending is directed toward G7 allies, despite these countries representing only 6% of the eligible population and 3% of GDP. By contrast, IDA lending broadly tracks population shares, and the UN exhibits a much weaker concentration, consistent with its more egalitarian governance structure. The pattern is robust to excluding China and India, which dominate both population-weighted and GDP-weighted measures in recent decades, and have emerged from the pool of developing countries to become geopolitical powers. Interestingly, when excluding India, IDA loans to G7 aligned countries is overrepresented relative to GDP or population (Table 2). Appendix Table A.3 reports the same breakdown for the World Bank as a whole (IBRD + IDA combined).

Table 1: Strategic Allocation to Developing Countries by Institution

Period	Total Aid % world GDP	Aid % received by G7* friends	% G7* friends receivers POP	GDP	Countries	Total Aid % world GDP	Aid % received by G7* friends	% G7* friends receivers POP	GDP	Countries
	IBRD					**IMF**				
1945–1969	0.01%	65%	17%	27%	14%	0.01%	53%	11%	19%	9%
1970–1994	0.04%	64%	18%	40%	21%	0.03%	55%	9%	18%	12%
1995–2009	0.03%	64%	19%	45%	24%	0.04%	68%	7%	15%	9%
2010–2023	0.02%	82%	53%	44%	34%	0.02%	68%	6%	3%	14%
	IDA					**UN**				
1960–1969	0.00%	46%	12%	13%	9%	0.01%	34%	26%	37%	26%
1970–1994	0.02%	13%	8%	9%	12%	0.02%	39%	38%	50%	31%
1995–2009	0.02%	15%	7%	5%	11%	0.03%	44%	76%	85%	45%
2010–2023	0.01%	35%	39%	17%	23%	0.05%	52%	87%	96%	63%

*For the UN: Security Council Members. **Friends means having a defense alliance or an FTA.
% G7 friends receivers refers to percentages over total developing countries.

Table 2: G7 Allies: Allocation to Developing Countries by Institution — Excluding China and India

Period	Total Aid % world GDP	Aid % received by G7* allies	% G7* allies receivers POP	GDP	Countries	Total Aid % world GDP	Aid % received by G7* allies	% G7* allies receivers POP	GDP	Countries
	IBRD					**IMF**				
1945–1969	0.01%	77%	29%	35%	14%	0.03%	72%	19%	25%	9%
1970–1994	0.03%	70%	36%	51%	21%	0.02%	62%	19%	22%	12%
1995–2009	0.02%	80%	37%	68%	24%	0.04%	68%	14%	22%	9%
2010–2023	0.02%	89%	49%	72%	33%	0.02%	68%	11%	8%	14%
	IDA					**UN**				
1960–1969	0.00%	67%	11%	12%	9%	0.00%	34%	40%	45%	26%
1970–1994	0.01%	22%	17%	11%	12%	0.01%	38%	44%	55%	31%
1995–2009	0.01%	19%	13%	7%	11%	0.02%	41%	57%	80%	44%
2010–2023	0.01%	30%	19%	11%	23%	0.05%	51%	70%	89%	62%

*For the UN: Security Council Members. **Allies means having a military alliance or an FTA.
% G7 allies receivers refers to percentages over total developing countries.

While these associations are robust across specifications, they should be interpreted with caution. Defense alliances and FTAs capture long-term strategic relationships that are themselves shaped by geopolitical and economic factors correlated with lending. As such, the estimates reflect strong conditional correlations rather than causal effects. Moreover, these relationships are inherently persistent: countries rarely enter or exit defense alliances or formal trade agreements in response to short-term changes, which limits the scope for within-country variation.

To address this concern, we turn to a more flexible and time-varying measure of alignment based on International Cooperation Agreements (ICAs). Unlike formal alliances, ICAs capture ongoing and evolving forms of bilateral engagement. We therefore re-estimate equation 3, replacing the binary alignment indicators with the number of ICAs signed with hegemonic countries over the previous five years. The five-year window reflects the lag between agreement formation and project implementation, although results are similar when using contemporaneous measures.

Table 3 shows that the ICA measure is positively and significantly associated with disbursements in IBRD, total World Bank, IMF, and pooled MDBs. One additional ICA signed in the previous five years increases expected disbursements by approximately 1.7–3.1%.[24] By contrast, no significant

[24]For IBRD: $(\exp(0.0172) - 1) \times 100 \approx 1.7\%$.

relationship is found for IDA or the UN, consistent with their more rule-based or egalitarian allocation mechanisms. When both ICA and binary indicators are included jointly, the ICA coefficient remains significant—albeit attenuated—while the patterns for alliances and FTAs remain unchanged.

Table 3: International Cooperation Agreements (ICAs) Influence Multilateral Lending

	(1) IBRD	(2) IDA	(3) WB	(4) IMF	(5) UN	(6) All MDBs	(7) EU
Panel A							
$ICAs_{5y}/H$	0.0172***	-0.0103	0.0160***	0.0303***	0.0125	0.0273**	-0.0379**
	(0.00523)	(0.00917)	(0.00349)	(0.00928)	(0.0173)	(0.0138)	(0.0174)
Observations	6,049	5,778	6,207	6,144	6,302	7,457	664
	(8) IBRD	(9) IDA	(10) WB	(11) IMF	(12) UN	(13) All MDBs	(14) EU
Panel B							
$ICAs_{5y}/H$	0.0150***	-0.0117	0.0130***	0.0244**	0.0128	0.0184**	-0.0362**
	(0.00381)	(0.00848)	(0.00332)	(0.00953)	(0.0140)	(0.00898)	(0.0155)
Defense alliance w/H	0.525***	-0.172	0.482***	0.933***	-0.0662	0.465***	0.1410
	(0.200)	(0.450)	(0.148)	(0.349)	(0.284)	(0.174)	(0.2641)
FTA w/H	0.617***	-0.480	0.270**	0.0220	-0.324	0.647***	n.i.
	(0.159)	(0.364)	(0.133)	(0.516)	(0.211)	(0.134)	
BIT w/H	0.388	0.407	0.198	0.302	-0.177	0.492	-0.3589
	(0.237)	(0.258)	(0.164)	(0.317)	(0.256)	(0.357)	(0.2896)
Observations	6,049	5,778	6,207	6,144	6,302	7,457	664

Robust standard errors clustered by country i in parentheses. All regressions include year fixed effects and control for log GDP and log population. $ICAs_{5y}/H$ denotes the number of International Cooperation Agreements signed by country i with any member of the hegemonic group H over the previous five years: G7 for IBRD, IDA, WB and IMF, Security Council permanent members for UN, and the top 10% of members by vote share for pooled MDBs. In columns (6) and (13), the unit of observation is country–MDB–year; H is the top 10% of members by vote share of each MDB in each year (at least one member; members tied at the cutoff are included); regressions include MDB×year fixed effects, and standard errors are two-way clustered by country and MDB. Defence alliance w/H equals 1 if country i has a formal defence alliance with any member of H, as reported by the Correlates of War project. FTA w/H equals 1 if country i has a Free Trade Agreement with any member of H, as reported by the Gravity dataset. BIT w/H equals 1 if country i has a Bilateral Investment Treaty with any member of H, as reported by the EDIT database. Panel A includes only the ICA variable; Panel B includes both ICA and binary alignment indicators. For alliance, FTA, or BIT dummies, whenever missing we replace them by 0, assuming there is no formal agreement in place. Observation counts might differ among columns based on the limited availability of data for the variables included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
For IBRD (col. 1), one additional ICA signed in the past five years increases expected lending by about 1.7%: $(\exp(0.0172)-1)\times 100 \approx 1.7\%$.
EU columns (7) and (14): operating expenditure allocated to member states excluding France, Germany and Italy, 1976–2020; $H = \{\text{FR}, \text{DE}, \text{IT}\}$; 664 observations and 25 country clusters. Alliance coding incorporates official NATO membership dates. Units are millions of the source accounting unit (UA, ECU or EUR). The source-category construction is held fixed, including exclusion of "Other (incl. administration)" in 1991. n.i. means not identified: FTA is constant across EU observations. These are conditional associations, not causal effects.

For EU operating expenditure, the ICA coefficient is −0.0379 (standard error 0.0174), indicating a negative conditional association. In the joint specification, the ICA coefficient is −0.0362 (standard error 0.0155), while the alliance and BIT coefficients are not statistically significant. These estimates do not establish a causal alignment effect.

Robustness checks across alternative control sets for the ICA specifications are reported in Appendix Tables A.14–A.18 (without country fixed effects) and Tables A.19–A.23 (with country fixed effects).

5.2 Dealing with Endogeneity

A natural concern with the cross-sectional results is endogeneity. Countries that receive more lending from G7-dominated institutions may subsequently deepen their ties with G7 countries, so the positive association between geopolitical alignment and disbursements could partly reflect reverse causality. The same concern applies if governments cultivate closer relations with hegemonic countries precisely because they anticipate greater access to institutional funding.

A first way to address this issue is to compare countries to themselves over time. Table 4 therefore re-estimates the ICA specifications with country fixed effects. The main picture remains broadly similar to the baseline: ICA intensity continues to be positively associated with IBRD, total World Bank, and IMF disbursements, while the pooled MDB estimate falls to about two thirds of its baseline size but remains significant at the 5% level (it loses significance once the binary alignment indicators are added), and the UN coefficient turns significant. These within-country estimates are informative, but they are not our main object of interest. What we ultimately seek to measure is institutional favoritism across countries: whether countries that are more closely aligned with hegemonic members receive systematically more funds than otherwise similar countries. Country fixed effects instead identify whether countries that move closer to the hegemon relative to their own past subsequently receive more funds relative to their own past. This is a useful robustness exercise, but it addresses a different question.

Table 4: ICAs with Country Fixed Effects

	(1) IBRD	(2) IDA	(3) WB	(4) IMF	(5) UN	(6) All MDBs	(7) EU
Panel A							
$ICAs_{5y}/H$	0.0149***	0.0115	0.0127***	0.0371***	0.0257***	0.0182**	-0.0312***
	(0.00332)	(0.00960)	(0.00306)	(0.00984)	(0.00631)	(0.00810)	(0.0090)
Observations	4,931	5,008	6,207	6,032	6,302	7,403	664
	(8) IBRD	(9) IDA	(10) WB	(11) IMF	(12) UN	(13) All MDBs	(14) EU
Panel B							
$ICAs_{5y}/H$	0.0155***	0.0104	0.0134***	0.0374***	0.0263***	0.0104	-0.0311***
	(0.00298)	(0.00802)	(0.00296)	(0.0105)	(0.00639)	(0.00993)	(0.0090)
Defense alliance w/H	0.541	0.538*	0.566**	0.200	0.304	0.760**	n.i.
	(0.345)	(0.289)	(0.235)	(0.606)	(0.273)	(0.318)	
FTA w/H	0.0386	-0.153	-0.0533	-0.155	-0.141	0.576***	n.i.
	(0.120)	(0.296)	(0.101)	(0.351)	(0.103)	(0.177)	
BIT w/H	0.167	0.223	0.151	0.0975	-0.00586	0.352	-0.0368
	(0.169)	(0.173)	(0.133)	(0.578)	(0.102)	(0.306)	(0.0520)
Observations	4,931	5,008	6,207	6,032	6,302	7,403	664

Robust standard errors clustered by country i in parentheses. All regressions include country and year fixed effects and control for log GDP and log population. $ICAs_{5y}/H$ denotes the number of International Cooperation Agreements signed by country i with any member of the hegemonic group H over the previous five years: G7 for IBRD, IDA, WB and IMF, Security Council permanent members for UN, and the top 10% of members by vote share for pooled MDBs. In columns (6) and (13), the unit of observation is country–MDB–year; H is the top 10% of members by vote share of each MDB in each year (at least one member; members tied at the cutoff are included); regressions include country and MDB×year fixed effects, and standard errors are two-way clustered by country and MDB. Defence alliance w/H equals 1 if country i has a formal defence alliance with any member of H, as reported by the Correlates of War project. FTA w/H equals 1 if country i has a Free Trade Agreement with any member of H, as reported by the Gravity dataset. BIT w/H equals 1 if country i has a Bilateral Investment Treaty with any member of H, as reported by the EDIT database. For alliance, FTA, or BIT dummies, whenever missing we replace them by 0, assuming there is no formal agreement in place. Observation counts might differ among columns based on the limited availability of data for the variables included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
EU columns (7) and (14): operating expenditure allocated to member states excluding France, Germany and Italy, 1976–2020; $H = \{\text{FR}, \text{DE}, \text{IT}\}$; 664 observations and 25 country clusters. Alliance coding incorporates official NATO membership dates. Units are millions of the source accounting unit (UA, ECU or EUR). The source-category construction is held fixed, including exclusion of "Other (incl. administration)" in 1991. n.i. means not identified: FTA is constant across EU observations. Alliance is also absorbed by country fixed effects; BIT variation then comes only from Poland. These are conditional associations, not causal effects.

For the EU, the ICA coefficient with country and year fixed effects is −0.0312 (standard error 0.0090). The joint specification gives a similar estimate, −0.0311 (standard error 0.0090). Both are negative and statistically significant conditional associations.

Electoral turnover We next examine whether the relationship between alignment and funding changes when governments lose office. The intuition is that cooperation with hegemonic countries may benefit an incumbent government, without carrying over fully to its successor. We first compare funding before and after turnovers at different levels of prior alignment. We then use elections in which the incumbent remains in office as an additional comparison group.

Using the election data of Marx et al. (2025), we retain consequential elections in which the executive is at stake and turnover or retention can be identified. Alignment, $A_{ie}^{H_j}$, is the number of ICAs signed with institution j's hegemonic group during the three calendar years before election e. This measure is fixed throughout the election episode and it doesn't include election-year agreements.

Each episode covers the available five years before and five years after the election. We omit the elec-

tion year, when annual funding cannot be assigned reliably to the outgoing or incoming government.

Among elections with turnover, we estimate

$$E[y_{iet}^{j} \mid \cdot] = \exp\Big(\alpha_{ie}^{j} + \lambda_{t}^{j} + \theta_{j} P_{et} + \beta_{j} P_{et} A_{ie}^{H_j} + X_{it}\gamma_{j}\Big), \tag{4}$$

where P_{et} equals one after the election, α_{ie}^{j} denotes country–election episode fixed effects, λ_{t}^{j} denotes calendar-year fixed effects, and X_{it} contains log GDP and log population. Episode fixed effects absorb permanent country characteristics. In the pooled MDB estimates, both sets of fixed effects are bank-specific. A negative β_j means that stronger prior alignment is associated with a more negative funding change after turnover. It is a relative change: the post-election funding change at alignment A depends on both θ_j and $\beta_j A$.

Panel A of Table 5 reports the results. The IBRD coefficient is −0.0243: one additional agreement signed before the election is associated with a 2.4% smaller post/pre funding ratio after turnover. The estimate for total World Bank disbursements is similar. The IDA and IMF estimates are negative but less precise, while the UN estimate is positive and statistically insignificant.

To distinguish this pattern from an electoral funding cycle shared by incumbent governments, we add elections with retention and estimate

$$\begin{aligned} E[y_{iet}^{j} \mid \cdot] = \exp\Big(&\alpha_{ie}^{j} + \lambda_{t}^{j} + \theta_{j} P_{et} + \beta_{j} P_{et} A_{ie}^{H_j} + \tau_{j} P_{et} T_{ie} \\ &+ \rho_{j} P_{et} A_{ie}^{H_j} T_{ie} + X_{it}\gamma_{j}\Big), \end{aligned} \tag{5}$$

where $T_{ie} = 1$ denotes turnover. The coefficient ρ_j compares the alignment gradient of the funding change under turnover with that under retention. The gradient among turnovers is $\beta_j + \rho_j$; β_j is the corresponding gradient among retained incumbents.

Panel B reports negative triple differences for IBRD and IMF funding, −0.0207 and −0.0643, respectively. The IBRD estimate is significant at the 10% level and the IMF estimate at the 5% level. For IBRD, the combined alignment gradient among turnovers is −0.0181 ($p = 0.027$).

The electoral evidence thus points to an interaction between prior alignment and political succession, while the pre-election dynamics limit a causal interpretation of the unadjusted estimates.

Table 5: Electoral Turnover and Prior Alignment

	IBRD	IDA	WB	IMF	UN	MDBs	EU
Panel A: Turnover elections							
Post × ICA	−0.0243***	−0.0132	−0.0224***	−0.0200	0.0105	−0.0015	0.0210
	(0.0084)	(0.0100)	(0.0068)	(0.0344)	(0.0181)	(0.0068)	(0.0184)
Observations	1,384	1,220	2,045	1,598	2,116	2,580	664
Countries	50	60	77	68	78	70	24
Election episodes	142	127	210	167	220	175	71
Panel B: Turnover versus retention							
Post × ICA × Turnover	−0.0207*	0.0130	−0.0157	−0.0643**	−0.0033	0.0071	0.0105
	(0.0113)	(0.0140)	(0.0096)	(0.0296)	(0.0243)	(0.0064)	(0.0166)
Observations	3,955	4,041	6,187	4,658	6,357	8,140	1,457
Countries	73	91	109	103	112	106	25
Election episodes	409	422	638	483	665	524	156

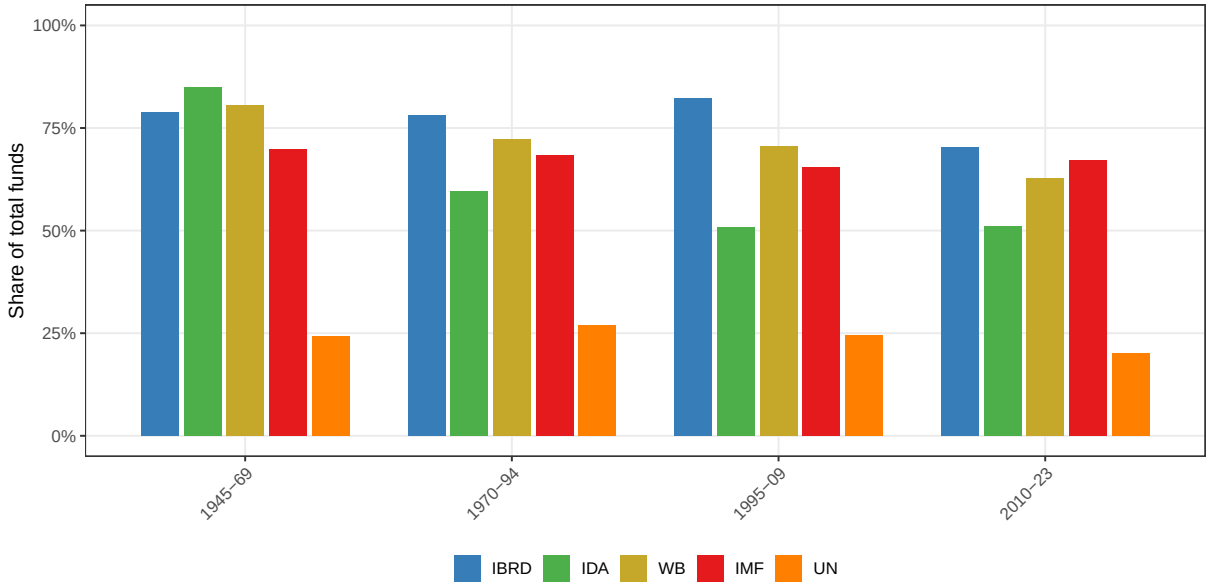
Notes: PPML estimates with election-episode and calendar-year fixed effects, log GDP and log population controls. Country-clustered standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. ICA is the number of agreements signed during the indicated pre-election window, fixed within each episode. The event window is $[-5,-1] \cup [1,5]$; observed zero funding is retained except where fixed effects imply separation. The hegemon is the G7 for IBRD, IDA, WB and IMF, the P5 for UN, each bank-year's top 10% of shareholders (including cutoff ties) for MDBs, and France, Germany and Italy for EU. Pooled MDBs use bank–episode and bank–year fixed effects. EU excludes these three hegemonic members and uses the European member-country universe. Samples differ with institutional coverage.

We now turn to a more aggregate view of allocation patterns. Figure 23 reports, for each institution and period, the share of total disbursements received by countries in the top quartile of geopolitical alignment with hegemonic members, measured using the five-year cumulative stock of ICAs. The denominator includes all developing countries eligible for funding, so that the figure directly shows how concentrated lending is among the most aligned recipients.

The asymmetry across institutions is striking. In the World Bank and IMF, the top quartile of aligned countries consistently absorbs between 65% and 80% of total disbursements. This is far above what would be expected based on their share among developing countries, indicating a strong concentration of funds among geopolitically aligned countries. Although this share declines somewhat in the most recent period, it remains persistently high.

By contrast, the United Nations displays a much flatter pattern. The share of funds going to countries aligned with Security Council members remains between 20% and 27%, much closer to their underlying weight among developing countries. This suggests that, in more egalitarian institutions, allocation is less strongly shaped by geopolitical alignment.

Figure 23: Share of Institutional Funds Going to Top-Hegemon Aligned Countries



Share of each institution's total disbursements received by developing countries in the top quartile of geopolitical alignment, averaged over four periods (1945–69, 1970–94, 1995–2009, 2010–23). For the IBRD, IDA, World Bank, and IMF, alignment is measured by the 5-year cumulative stock of International Cooperation Agreements (ICAs) with G7 countries (top quartile by year). For the UN, alignment is measured by ICAs with permanent members of the Security Council. For years where ICA data is unavailable (post 2020), countries retain their last observed alignment status.

Tables 6 and 7 provide a more detailed decomposition of these patterns. For each institution and period, they report the total volume of disbursements (as a share of world GDP), the fraction of funds received by top-quartile aligned countries, and the share of these countries in the recipient pool measured by population, GDP, and number of countries relative to developing countries totals -that is, potential receivers-. The last three columns serve as a benchmark: if allocation were neutral, the share of funds should be close to these reference shares.

The comparison reveals large and persistent gaps in Bretton Woods institutions. For example, in 2010–2023, top-quartile G7-aligned countries received 70% of IBRD disbursements while accounting for only about half of the eligible population and less than half of GDP. In the IMF, the concentration is even more pronounced: roughly two-thirds of disbursements go to countries representing only a small fraction of the eligible population. By contrast, in the UN, the share of funds received by aligned countries is much closer to their demographic and economic weight. IDA again occupies an intermediate position: while some concentration is visible in the descriptive statistics, regression results indicate no systematic relationship with geopolitical alignment.

Taken together, these results point to a common conclusion. Strategic allocation is not uniform across institutions: it is strongest where governance is concentrated and weakest where representation is more egalitarian. The same resources therefore generate very different allocation patterns depending on institutional design.

Table 6: Strategic Allocation to Top Hegemon-Aligned Countries by Institution

Period	Total Aid % world GDP	% Funds to top-quartile	% Top-quartile receivers POP	GDP	Countries	Total Aid % world GDP	% Funds to top-quartile	% Top-quartile receivers POP	GDP	Countries
	IBRD					**IMF**				
1945–1969	0.01%	79%	60%	63%	30%	0.01%	70%	26%	30%	11%
1970–1994	0.04%	78%	66%	65%	21%	0.03%	68%	27%	26%	14%
1995–2009	0.03%	82%	68%	76%	16%	0.03%	66%	10%	12%	11%
2010–2023	0.02%	70%	52%	48%	17%	0.02%	67%	6%	3%	11%
	IDA					**UN**				
1960–1969	0.01%	85%	44%	29%	13%	0.01%	24%	42%	48%	20%
1970–1994	0.02%	60%	60%	31%	18%	0.02%	27%	47%	55%	18%
1995–2009	0.02%	51%	61%	42%	16%	0.02%	25%	61%	71%	16%
2010–2023	0.02%	51%	37%	16%	19%	0.05%	20%	26%	26%	22%

Top-quartile G7-aligned: 75th percentile of 5-year cumulative ICA stock with G7, by year. For UN: Security Council ICA alignment.
% top-quartile receivers refers to percentages over all developing countries.

Table 7: Strategic Allocation to Top Hegemon-Aligned Countries by Institution (excl. China & India)

Period	Total Aid % world GDP	% Funds to top-quartile	% Top-quartile receivers POP	GDP	Countries	Total Aid % world GDP	% Funds to top-quartile	% Top-quartile receivers POP	GDP	Countries
	IBRD					**IMF**				
1945–1969	0.01%	77%	49%	59%	30%	0.01%	67%	22%	28%	11%
1970–1994	0.04%	76%	46%	59%	21%	0.03%	67%	26%	26%	14%
1995–2009	0.03%	79%	38%	63%	15%	0.03%	66%	19%	18%	12%
2010–2023	0.02%	69%	36%	55%	16%	0.02%	67%	12%	7%	12%
	IDA					**UN**				
1960–1969	0.01%	64%	17%	15%	12%	0.01%	40%	55%	60%	33%
1970–1994	0.02%	41%	32%	15%	18%	0.02%	34%	55%	66%	27%
1995–2009	0.02%	40%	26%	11%	16%	0.02%	35%	48%	70%	27%
2010–2023	0.02%	47%	24%	12%	19%	0.05%	82%	82%	89%	74%

China and India excluded from both numerator and denominator. Top-quartile status recomputed on reduced sample.

6 A Constitutional Model of Public Goods Provision under Alternative Governance Rules

The empirical evidence above reveals two systematic patterns. First, burden sharing is regressive in institutions where voting power is tied to contributions. Second, resource allocation is not neutral, but instead favors countries that are geopolitically aligned with the most powerful shareholders, whenever the institution is less democratic. These two features appear jointly across institutions, suggesting a common underlying mechanism.

To understand this mechanism, we develop a parsimonious *constitutional model* of an international organization. The objective is not to capture all institutional details, but to isolate the minimal set of rules that govern how contributions translate into power, and how power in turn shapes both financing and allocation outcomes.

The organizing concept is the *constitution* of an international organization: a triple $z = (s^0, \Omega, r)$, where s^0 denotes the initial vector of assessment or quota shares, $\Omega(\cdot)$ is the mapping from contribution shares into voting weights, and r is the majority threshold required to pass a reform. This formulation captures the key institutional choice highlighted in the data: whether financial contributions and

political control are tightly linked or largely decoupled. In this sense, the exercise is squarely in the tradition of constitutional political economy: following Buchanan and Tullock (1962), the object of comparison is not only policy within a fixed institutional environment, but the rules that determine who pays, who decides, and how those rules can be changed. The central distinction across institutions is therefore the shape of Ω. When Ω is constant, contributions do not translate into additional voting power, and financing is effectively separated from control. When Ω is increasing, higher contributions buy greater influence, and economic size maps directly into political power.

This seemingly simple constitutional difference has far-reaching implications. It shapes outcomes along three dimensions: *quantity* (how much of the public good is provided), *incidence* (who bears the fiscal burden, both today and after potential reforms), and *allocation* (how resources are distributed across members' preferred uses). Under contribution-weighted governance, these dimensions are jointly determined. The same mechanism that allows large economies to sustain higher contributions at lower relative cost is also what grants them the voting power to steer spending toward their preferred recipients. In this sense, fiscal advantage and allocation bias are not separate distortions, but two manifestations of a single constitutional logic.

Setup: Countries, the Public Good, and the Cost of Public Funds

Two member countries (or blocs) $i \in \{1, 2\}$ finance a global public good of total size $G \geq 0$. Country 1 is larger and richer: $Y_1 > Y_2$. Each country's payoff is

$$U_i = b(G) - C_i(x_i), \qquad b'(G) > 0, \quad b''(G) < 0, \tag{6}$$

where $b(\cdot)$ is a common, concave benefit function and $C_i(x_i)$ is the *domestic cost of public funds*—the fiscal, administrative, and political cost of raising x_i from the national tax base.

Under an institution, contributions are determined by *assessment shares* s_i:

$$x_i = s_i G, \qquad s_i \in [0, 1], \qquad s_1 + s_2 = 1. \tag{7}$$

These shares are the analog of quota allocations or assessed contributions in real-world institutions such as the IMF and the World Bank. The *GDP burden* of member i is

$$a_i \equiv \frac{x_i}{Y_i} = \frac{s_i G}{Y_i}. \tag{8}$$

The GDP burden a_i is the central measure of *fiscal effort*: it captures the fraction of national output that a country devotes to financing the institution. A member with $a_i = 0.01$ sends one cent of every dollar of national income to the institution. This metric is the natural analog of the contribution-to-GDP ratios used to assess burden-sharing in NATO, foreign aid, and multilateral development banks—a country experiencing a high a_i bears a costly obligation relative to its size, regardless of the absolute dollar amount contributed. Holding assessment shares fixed, the GDP burden is strictly decreasing in income: a given contribution share costs richer members less of their GDP.

We model domestic financing costs as quadratic in contributions:

$$C_i(x_i) = \frac{1}{2Y_i} x_i^2, \tag{9}$$

so that the marginal cost is $C_i'(x_i) = x_i/Y_i = a_i$. The marginal cost of contributing equals the GDP burden itself: each additional dollar sent to the institution costs the equivalent of raising a_i at the margin. This normalization encodes the only source of asymmetry in the baseline model: country size Y_i. For a given dollar-level contribution x_i, the marginal cost x_i/Y_i is strictly decreasing in income—larger economies find each dollar cheaper in GDP terms. Note, however, that the comparison reverses when holding the *GDP burden* a_i fixed: if a_i is the same for both countries, the richer one contributes more in absolute dollars and therefore bears a higher total cost $C_i = a_i^2 Y_i/2$. The cost function thus encodes two distinct asymmetries: lower cost per dollar (which matters for how easily a country can expand contributions at the margin) and higher total cost for proportional effort (which reflects the greater absolute resources at stake). The quadratic structure captures increasing distortions of taxation as the contribution level rises. Note that C_i captures the domestic distortionary burden of raising x_i through taxation—the excess burden or deadweight loss—rather than the direct resource transfer, which is netted against the benefit $b(G)$. This formulation is standard in the optimal taxation and public finance literature (Atkinson and Stiglitz, 1976; Stiglitz, 2000). Including the direct cost explicitly—i.e., replacing $C_i(x_i)$ with $x_i + \frac{1}{2Y_i}x_i^2$, so that the marginal cost becomes $1 + a_i$—would shift the equilibrium level of provision but leave all incidence and allocation results unchanged, since these depend only on the ratio of marginal costs across countries.

The Constitution: Two Governance Regimes

The institution's constitution specifies how voting weights are determined:

$$\omega_i = \Omega(s_i), \qquad \omega_1 + \omega_2 = 1. \tag{10}$$

We study two polar constitutions. Under **equal representation**, $\Omega(s_i) \equiv 1/2$: voting weights are fixed regardless of contribution shares, so that financing and governance are fully decoupled. Under **contribution-weighted representation**, $\Omega'(s_i) > 0$: a larger assessment share buys a larger vote share. The benchmark case is $\Omega(s_i) = s_i$, so that $\omega_i = s_i$ and voting power is directly proportional to the financial contribution.

A point worth making explicit at the outset, as it is central to the model's logic: under equal representation, $\omega_i = 1/2$ places *no restriction* on s_i. The constitution governs two independent institutional objects—s_i determines *who pays*; ω_i determines *who rules*. Under equal representation these are orthogonal:

$$\underbrace{s_i \perp \omega_i}_{\text{equal representation: } s \text{ and } \omega \text{ are independent objects}} \qquad \text{vs} \qquad \underbrace{\omega_i = \Omega(s_i)}_{\text{contribution-weighted: } s \to \omega} \quad . \tag{11}$$

The UN General Assembly is a canonical example of the left-hand case: each member holds one vote ($\omega_i = 1/N$) while assessed contribution scales are highly unequal ($s_i \neq s_j$). The IMF and World Bank

approximate the right-hand case: quota shares determine voting weights directly. This distinction is not a technicality. It governs whether the assessment rule can be reformed independently of the governance structure, and whether a country's fiscal stake in the institution is tied to its political stake.

This distinction has a precise implication for the *price of political influence*. Under contribution-weighted governance, the GDP cost of acquiring a marginal unit of voting power, holding the institution's total size G fixed, is

$$\left.\frac{\partial a_i}{\partial \omega_i}\right|_G = \frac{G}{Y_i\,\Omega'(s_i)}, \tag{12}$$

which is strictly decreasing in Y_i. To interpret: $\partial a_i/\partial s_i = G/Y_i$ is the GDP cost of raising one's assessment share by one unit (for fixed G), while $\partial s_i/\partial \omega_i = 1/\Omega'(s_i)$ is the inverse rate at which assessment shares translate into votes. In the benchmark case $\Omega(s_i) = s_i$, so $\Omega'(s_i) = 1$, and the formula reduces to

$$\left.\frac{\partial a_i}{\partial \omega_i}\right|_G = \frac{G}{Y_i}, \tag{13}$$

which has a stark interpretation: the price of political influence is the ratio of the institution's budget to the country's GDP. A country twice as rich faces a price exactly half as low; a country half as rich must spend twice as large a share of its income to sustain the same vote. Under equal representation, by contrast, $\Omega' = 0$ and no amount of additional contribution purchases votes: the price is effectively infinite. The operative distortion is therefore not that rich countries receive more votes per dollar contributed—at the margin, all members pay for the votes they hold. Of course, formal voting weights are not identical to broader measures of voting power (Felsenthal and Machover, 1998). The point here is narrower: whatever formal influence the constitution assigns, a given vote share is simply cheaper to sustain in GDP terms for larger economies.

Figure 24 below illustrates the full mechanism.

6.1 Benchmark: Decentralized Provision and Free-Riding

Without any institution, each country chooses its contribution independently, taking the other's as given:

$$\max_{x_i \geq 0}\; b(x_i + x_j) - C_i(x_i).$$

Any interior contributor satisfies the first-order condition

$$b'(G^N) = C_i'(x_i^N) = a_i^N. \tag{14}$$

Since both countries equate the common marginal benefit $b'(G^N)$ to their respective marginal costs, equilibrium imposes *equal GDP burdens*: $a_1^N = a_2^N$ (see Appendix D.1 for derivations). In the symmetric baseline, decentralized provision is cost-neutral across income levels—it is the institutional design, not the underlying game, that drives asymmetric burden-sharing. Provision is nonetheless inefficient: each country ignores the positive spillover its contribution generates for the other, so equilibrium provision G^N falls strictly below the cooperative optimum under any institution that internalizes benefits to both members. This is the familiar free-riding logic emphasized by Olson Jr (1965). In

the present common-benefit baseline, however, Olson-type exploitation does not arise: because both countries face the same marginal benefit schedule, the Nash equilibrium equalizes GDP burdens. The exploitation of the great by the small emerges only once countries differ in benefit intensities, as shown later in this section.

6.2 Equal-Representation Institution

Under equal representation, the budget coalition maximizes equally weighted welfare. Before writing down the optimization, it is worth emphasizing that $\omega_i = 1/2$ does *not* imply $s_i = 1/2$. The voting rule and the assessment rule are distinct objects: the former is pinned by the constitution at 1/2; the latter, $s = (s_1, s_2)$, is an independent institutional parameter set by the charter and inherited from s^0. The optimization below takes s as given—it is the outcome of a separate constitutional process, not a consequence of the equal-weight voting rule.

Given inherited assessment shares $s = (s_1, s_2)$, the institution chooses total provision G to solve

$$\max_{G \geq 0} \; b(G) - \tfrac{1}{2} C_1(s_1 G) - \tfrac{1}{2} C_2(s_2 G).$$

The first-order condition is

$$b'(G^E) = \tfrac{1}{2}\left[s_1 C_1'(s_1 G^E) + s_2 C_2'(s_2 G^E)\right] = \frac{G^E}{2}\left(\frac{s_1^2}{Y_1} + \frac{s_2^2}{Y_2}\right). \tag{15}$$

The level of provision G^E depends on the assessment shares s and the benefit function $b(\cdot)$; the focus here is on incidence rather than on comparing provision levels across regimes. Conditional on the assessment shares s, the GDP burden ratio is

$$\frac{a_1^E}{a_2^E} = \frac{s_1}{s_2} \cdot \frac{Y_2}{Y_1}, \tag{16}$$

which depends only on the assessment rule and relative country sizes—not on the voting rule (Appendix D.2). This is the first instance of a general result: the burden-ratio formula $a_i/a_j = (s_i/s_j)(Y_j/Y_i)$ holds under any constitution, and it does *not* restrict s_i to equal ω_i. Under equal representation, the s_i appearing in this formula are *exogenous*—they are institutional parameters chosen independently of who holds the votes. The critical implication is that a reform toward more progressive assessments—raising s_1 and lowering s_2—is, in constitutional terms, a pure fiscal redistribution: it does not threaten any member's formal governance power, since ω_i is invariant to s. The fiscal and political dimensions of membership are fully separable, and progressive reform can be negotiated on its fiscal merits alone.

6.3 Contribution-Weighted Institution: Fiscal Power Becomes Political Power

Under contribution-weighted governance, the budget coalition maximizes $\omega_1 U_1 + \omega_2 U_2$ with $\omega_i = \Omega(s_i)$. In the benchmark case $\Omega(s_i) = s_i$, votes are proportional to contributions, and the institution

solves

$$\max_{G \geq 0} \; b(G) - s_1 C_1(s_1 G) - s_2 C_2(s_2 G).$$

The first-order condition is

$$b'(G^W) = G^W \left(\frac{s_1^3}{Y_1} + \frac{s_2^3}{Y_2} \right). \tag{17}$$

Conditional on s, the burden ratio takes the same form as under equal representation:

$$\frac{a_1^W}{a_2^W} = \frac{s_1}{s_2} \cdot \frac{Y_2}{Y_1}. \tag{18}$$

The burden-ratio formula is the same as under equal representation—equation (16)—confirming the general result: *the formula for incidence is constitution-independent, but the value of s that enters it is not*. Under equal representation s is exogenous, set independently of ω. Here, s is *endogenous*: it is the equilibrium outcome of a political process in which financing shares and vote shares are constitutionally bundled. The constitutional distinction operates not through the budget-stage formula but through which s^* is sustained and how easily it can be changed.

Under contribution-weighted governance, the assessment shares s perform double duty: they determine both the financing burden and the allocation of formal votes. Any proposal to reform s therefore simultaneously proposes a reallocation of votes. A reform that makes assessments more progressive—increasing s_1, the rich country's share, and reducing s_2—simultaneously reduces the poor country's vote share $\omega_2 = s_2$, weakening its future capacity to sustain or defend such a reform. This bundling of fiscal and political stakes creates a status-quo bias: efforts to move financing toward ability to pay simultaneously reallocate political control, making redistributive reform self-undermining in a way that is absent under equal representation.

Reform rigidity under contribution-weighted governance. Under contribution-weighted governance ($\Omega'(s_i) > 0$), a proposal to increase country 1's assessment share s_1 passes only if $\sum_{i \in \mathcal{C}} \Omega(s_i) \geq r$ for some winning coalition $\mathcal{C}$. Since increasing s_1 raises $\omega_1 = \Omega(s_1)$ and lowers ω_2, any reform that lightens the poor country's burden simultaneously shifts formal power toward the rich country, creating a circular dependence that is absent under equal representation, where votes are invariant to s. Once the rich member is dominant, this generates a veto-player problem in the sense of Tsebelis (2002): the actors best placed under the status quo also possess the institutional leverage to block changes to it. More generally, bundling the fiscal and political dimensions of membership generates a structure-induced equilibrium (Shepsle, 1979) in which otherwise feasible redistributive reforms can be difficult to sustain.

6.4 Allocation Bias: Voting Power over Project Choice

We extend the model to allow the institution to choose not only the *quantity* but also the *composition* of the public good. Let $\theta \in [0,1]$ index a project trait—the geographic focus of lending, the type of conditionality, or the policy agenda of a multilateral body. Benefits depend on both quantity and

project type:

$$U_i = \beta_i(\theta)G - C_i(x_i),$$

where $\beta_1'(\theta) > 0$ (country 1 prefers higher θ), $\beta_2'(\theta) < 0$ (country 2 prefers lower θ), and $\beta_i''(\theta) < 0$. Costs do not depend on θ, so the quantity and allocation decisions are separable.

Given governance weights (ω_1, ω_2) and provision $G > 0$, the institution chooses θ to maximize $\omega_1\beta_1(\theta)G + \omega_2\beta_2(\theta)G$. Any interior optimum satisfies

$$\omega_1\beta_1'(\theta^*) + \omega_2\beta_2'(\theta^*) = 0. \tag{19}$$

Since $\beta_i'' < 0$, this pins down a unique interior solution. Differentiating with respect to ω_1 by the implicit function theorem:

$$\frac{\partial\theta^*}{\partial\omega_1} = -\frac{\beta_1'(\theta^*) - \beta_2'(\theta^*)}{\omega_1\beta_1''(\theta^*) + \omega_2\beta_2''(\theta^*)} > 0, \tag{20}$$

since $\beta_1'(\theta^*) > 0$, $\beta_2'(\theta^*) < 0$, and both $\beta_i'' < 0$. By Topkis' theorem—the institution's objective has strictly increasing differences in (θ, ω_1)—this extends to corner solutions as well (see Appendix D.4 for the full proof).

Allocation bias. For any governance weights (ω_1, ω_2), a marginal increase in country 1's voting share weakly increases the optimally chosen project trait θ^*, shifting the institution's portfolio toward country 1's preferences and away from country 2's. The bias is independent of the financing technology (costs are θ-independent) and holds at corner solutions by monotone comparative statics.

Under contribution-weighted governance, both results reduce to a single constitutional variable. In the benchmark $\Omega(s_i) = s_i$, the assessment share and the vote share coincide: $\omega_i = s_i$. The burden ratio and the allocation outcome are therefore both functions of the same object $\omega_1^* = s_1^*$:

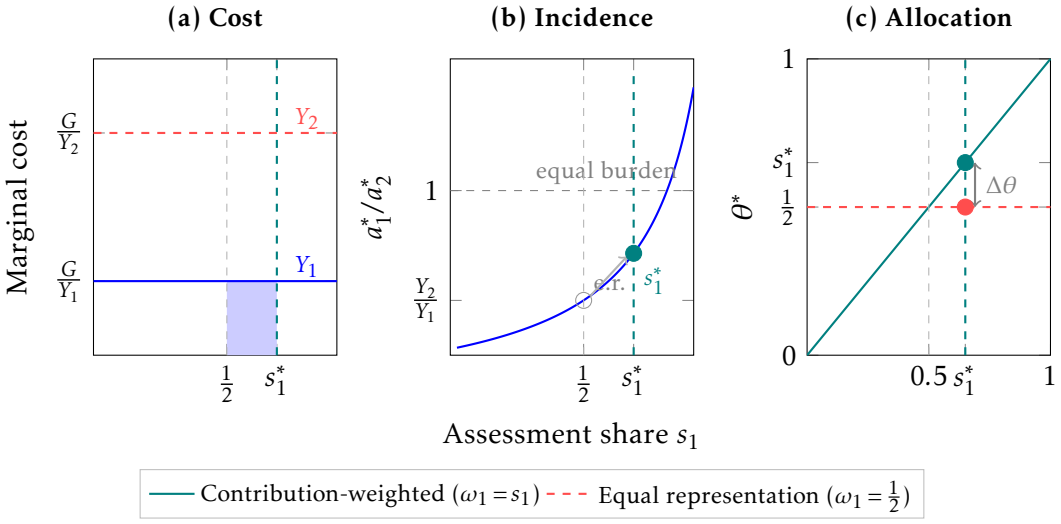
$$\frac{a_1^*}{a_2^*} = \frac{\omega_1^*}{\omega_2^*} \cdot \frac{Y_2}{Y_1}, \qquad \frac{\partial\theta^*}{\partial\omega_1^*} > 0. \tag{21}$$

Under equal representation $\omega_1 = 1/2$ is fixed regardless of s, so the two decouple: reforming assessment shares shifts incidence without moving θ^*. Under contribution-weighted governance, $\omega_1 = s_1$ ties them together: any constitution that produces $\omega_1^* > 1/2$ simultaneously determines both the burden ratio and the project portfolio of country 1. Fiscal incidence and allocation bias are not separate effects but corollaries of the same constitutional variable.

From Fiscal Power to Political Power: A Summary

The model delivers two conceptually distinct results that map directly onto the empirical findings of this paper. First, the *incidence result*: conditional on assessment shares, the burden ratio is constitution-independent; the constitutional distinction operates through the equilibrium share distribution s^*, which favors economies with larger financing capacity, and through the reform rigidity that locks in existing distributions. Second, the *allocation result*: the voting weights that shape fiscal incidence simultaneously tilt the composition of spending toward the preferences of the most

powerful shareholders.



Notes: $Y_1/Y_2 = 3$, benchmark $\Omega(s_i) = s_i$. *Panel (a):* Marginal GDP cost of raising s_i by one unit, equal to G/Y_i (equation (13)); normalized so $G/Y_1 = 1$. Blue shading is the total GDP cost $\Delta s_1 \cdot G/Y_1$ of the move from $s_1 = \frac{1}{2}$ to s_1^* for country 1; the same move would cost country 2 three times as much (reaching $y = G/Y_2 = 3$). *Panel (b):* Incidence formula $a_1^*/a_2^* = (s_1/s_2)(Y_2/Y_1)$ (equation (18)); identical across regimes conditional on s_1. Open circle marks the equal-representation baseline ($s_1 = \frac{1}{2}$, labeled e.r.); arrow shows the move to s_1^*, where the burden ratio remains below the equal-burden line. *Panel (c):* Assuming $\beta_1(\theta) = \log\theta$ and $\beta_2(\theta) = \log(1-\theta)$, the FOC (equation (19)) yields $\theta^* = \omega_1$ in closed form. Under contribution-weighted governance $\omega_1 = s_1$ so $\theta^* = s_1$ (teal line); under equal representation $\omega_1 = \frac{1}{2}$ so $\theta^* = \frac{1}{2}$ (red dashed). Gap $\Delta\theta = s_1^* - \frac{1}{2}$ is the allocation bias from constitutional bundling.

Figure 24: The unified constitutional mechanism.

Crucially, the relevant distortion is not that rich countries receive more votes per dollar contributed—at the margin, every member pays for the votes it holds. Rather, the distortion is that a given vote share is simply cheaper to sustain in GDP terms for larger economies: as equation (13) shows, the price of influence is the institution's budget divided by national income. Equal-representation institutions break this link: because Ω is constant, reforming the assessment rule does not redistribute political control, and the institution can move toward capacity-to-pay financing without triggering a governance crisis. In contribution-weighted institutions, by contrast, fiscal reform and political reform are constitutionally bundled—creating the status-quo bias described above and consistent with the remarkable stability of voting distributions at the IMF and World Bank documented in Section 2.2. Appendix D.5 extends the model to allow for asymmetric benefit intensities across countries. This extension pins down the equilibrium assessment shares and shows that political dominance accrues to the country with greater benefit-adjusted financing capacity—even when the richer country values the public good less, provided its income advantage outweighs the valuation gap.

7 Conclusion

This paper has studied how the institutional design of global governance shapes who pays for international cooperation, who controls it, and who benefits from it. Using a new historical dataset covering more than 60 international organizations since 1920, we document two central patterns.

First, in institutions where voting power is effectively purchased through financial contributions, influence is highly concentrated: richer countries acquire voting rights at a much lower cost relative to their GDP and therefore dominate decision-making. This results in regressive contribution systems. Second, these same institutions display systematic evidence of strategic allocation: a large share of disbursements is directed toward countries that are geopolitically aligned with dominant shareholders. By contrast, institutions in which voting power is not linked to financial contributions—most notably the United Nations—exhibit progressive burden sharing and no systematic evidence of alignment-based allocation.

These findings point to a common mechanism. When financial contributions are bundled with political control, the same rule that makes influence cheaper for large economies also allows them to steer resource allocation toward their preferred partners. Burden-sharing asymmetries and strategic allocation are therefore not separate distortions, but two outcomes of the same institutional design. The findings also speak to the well-known notion of a "global democratic deficit", characterized by the lack of representation and accountability in international organizations. Our results suggest that this deficit is disproportionately larger for Global South citizens.

This has direct implications for current debates on multilateralism. The provision of global public goods—climate mitigation, pandemic preparedness, financial stability—requires sustained international cooperation. Yet cooperation depends not only on aggregate resources, but also on perceived fairness and legitimacy. A system in which poorer countries contribute more relative to their capacity while having limited influence, and in which funds are systematically tilted toward the allies of dominant powers, is unlikely to generate durable support for global cooperation. In this sense, democratizing international institutions is not only a normative objective, but a practical condition for their effectiveness.

Future research should deal with the non trivial question of optimal design of international institutions. Different governance rules imply fundamentally different distributions of power. A one-country-one-vote system gives the same power to Luxembourg as it does to the United States or China, a GDP-weighted system concentrates power in a small number of rich countries, a population-weighted system would result in China and India holding more than a third of the votes. Addressing this will be central to understanding how global institutions could be redesigned.

More broadly, the paper highlights that the economics of global governance cannot abstract from institutional rules. Just as the evolution of national democracies was shaped by the progressive decoupling of taxation and political rights, the future of international cooperation will depend on how financing and control are organized at the global level. Understanding these mechanisms is a first step toward designing institutions that are both more effective and more legitimate.

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A Appendix

A. Methodological Notes

Appendix Note A.1: Methodology for the United Nations Scale of Assessments[25]

The methodology for the 2022–2024 United Nations scale of assessments follows a structured process grounded in the principle of capacity to pay. The process is composed of the following steps:

1. **Conversion of GNI to US Dollars**
   Each Member State's GNI of the last three or six years, reported in national currency, is first converted into US dollars using the annual average market exchange rate (MER) or, where appropriate, an alternative rate approved by the Committee. The average GNI is then calculated over each of the two base periods - three years and six years. For the six-year period, the formula is:
   $$\text{Average GNI}_i = \frac{1}{6}\sum_{t=1}^{6}\left(\frac{\text{GNI}_{i,t}}{\text{ExchangeRate}_{i,t}}\right)$$
   These average values are then summed across all Member States to determine each country's share in global GNI which serves as a first approximation to each country's share of contribution to the the total UN budget.

2. **Debt-Burden Adjustment (DBA)**
   To account for the burden of external debt, the methodology subtracts a debt-burden adjustment from GNI. This adjustment assumes that on average 12.5% of a country's external debt stock is repaid each year over an eight-year period. The resulting debt-adjusted GNI, denoted GNI_{da}, is calculated as:
   $$\text{GNI}_{\text{da}} = \text{GNI} - \text{DBA}$$
   $$\sum_i \text{GNI}_{\text{da},i} = \sum_i \text{GNI}_i - \sum_i \text{DBA}_i$$

3. **Calculation of the Threshold for Low Per Capita Income Adjustment**
   The average per capita GNI across all Member States is used as the threshold for determining whether a country qualifies for a low per capita income adjustment. It is calculated by dividing total GNI by total population over the relevant base period:
   $$\text{pcGNI}_{\text{avg}} = \frac{\sum_i \sum_{t=1}^{n} \text{GNI}_{i,t}}{\sum_i \sum_{t=1}^{n} \text{Population}_{i,t}}, \quad n = 3 \text{ or } 6$$

4. **Calculation of Average Per Capita** GNI_{da}

[25] This section summarizes the methodology outlined in Annex II, titled "Outline of the methodology used for the preparation of the United Nations scale of assessments for the period 2022–2024," of the Report of the Committee on Contributions in document A/79/11 (Committee on Contributions, 2024).

Each Member State's average per capita GNI_{da} is computed using a similar formula:

$$\text{pcGNI}_{\text{da},i} = \frac{\sum_{t=1}^{n} \text{GNI}_{\text{da},i,t}}{\sum_{t=1}^{n} \text{Population}_{i,t}}, \quad n = 3 \text{ or } 6$$

5. **Low Per Capita Income Adjustment (LPCIA)**
   If a country's average per capita GNI_{da} is below the global threshold, its income share is reduced. Specifically, the reduction equals 80% of the percentage shortfall:

$$\text{Reduction}_i = 0.8 \times \left(1 - \frac{\text{pcGNI}_{\text{da},i}}{\text{pcGNI}_{\text{avg}}}\right)$$

   For example, if the global average is \$5,000 and a country's value is \$1,000, the reduction is:

$$0.8 \times \left(1 - \frac{1{,}000}{5{,}000}\right) = 0.8 \times 0.8 = 0.64 \text{ (or } 64\%)$$

6. **Redistribution of LPCIA**
   The total reduction from step 5 is reallocated proportionally to Member States whose average per capita GNI_{da} is above the threshold. The ceiling country (i.e., the country capped at 22%) is excluded from this reallocation.

7. **Application of the Minimum Assessment Rate**
   If a Member State's assessment falls below the minimum rate of 0.001%, it is increased to meet this floor. The increase is balanced by proportional reductions in the shares of all other Member States, except the ceiling country.

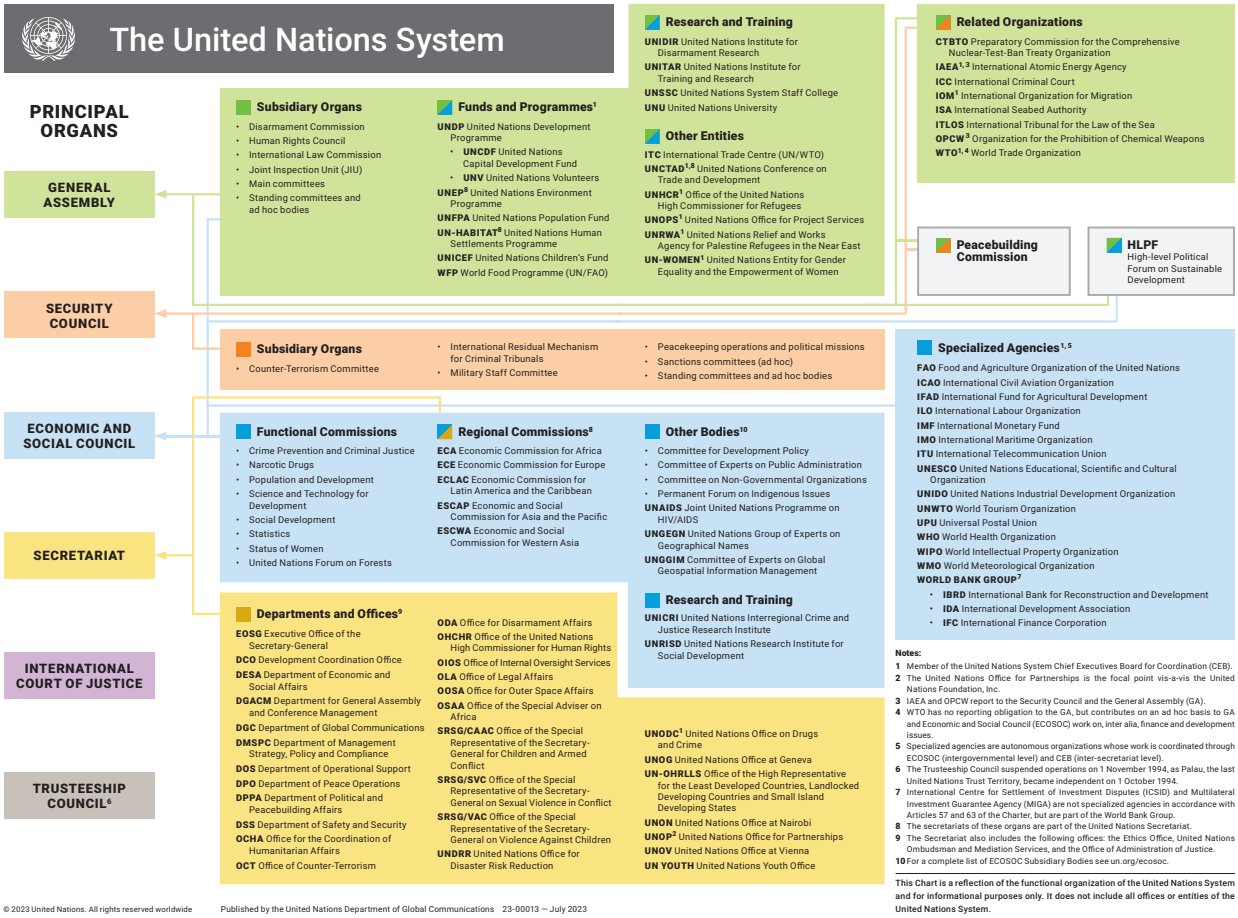
8. **Application of the LDC Ceiling**
   For countries classified as Least Developed Countries (LDCs), a maximum rate of 0.01% applies. Any amount above this ceiling is redistributed across countries not affected by either the floor or the 22% ceiling.

9. **Application of the Maximum Assessment Ceiling**
   A global maximum contribution rate of 22% is applied to any country that would otherwise exceed it. The excess is redistributed among all other Member States, excluding those affected by the floor or the LDC ceiling. This reallocation does not include any shares originating from previous adjustments.

10. **Averaging of Final Results**
    The final assessment rate for each Member State is the simple average of the adjusted rates derived from the three-year and six-year base periods:

$$\text{FinalRate}_i = \frac{\text{Rate}_{3\text{yr},i} + \text{Rate}_{6\text{yr},i}}{2}$$

Figure A.1: Chart of the United Nations System



Organizational chart of the United Nations system, showing principal organs, specialized agencies, funds, programmes, and related organizations.

Appendix Note A.2: The IBRD Formula [26]

IBRD shareholding legally determines the structure of both the IBRD and IDA. While the two entities have separate boards, the same Executive Directors sit on each, with voting power varying according to whether the matter concerns IBRD or IDA.

The voting power of each Bank member is the sum of its Basic Votes and its Share Votes. Share Votes are determined by the number of shares of IBRD stock held by each member, with one Share Vote for each share.

Basic Votes

Prior to the 2010 reform, Basic Votes were fixed at 250 votes per member according to the Bank's Articles. In 2008, Basic Votes represented 2.86% of total IBRD voting power, compared to 10.78% at the time of the Bank's founding in 1944.

The basic votes of each member are calculated by equally distributing 5.55 percent of the total voting power across all members, with the provision that no fractional basic votes may be allocated. The share of aggregate voting power represented by basic votes is fixed at 5.55 percent, meaning it does not vary when the number of subscribed shares of the Bank's capital stock increases or decreases, nor when the number of Bank members changes.

The number of Basic Votes for any member will be determined in a two-step calculation. First, the aggregate number of Basic Votes for all members will be calculated to be 5.55% of total votes. Second, this aggregate number of Basic Votes will be divided by the number of members at the time of calculation, to determine the number of Basic Votes allocated to each member.

The IBRD Quota Framework: The 2016 Dynamic Fomula

The IBRD shareholding formula introduced in 2016, often referred to as the Dynamic Formula, is expressed as follows:

$$\text{IBRD Shareholding} = (0.8 \times \text{GDP}_{60/40} + 0.20 \times \text{IDA Component})^{0.95}$$

1. **The GDP Component**

   Gross Domestic Product (GDP) constitutes the central pillar of the quota framework. A long-standing division existed between developed countries, which preferred GDP measured at market exchange rates, and Developing and Transition Countries (DTCs), which favored GDP measured in terms of Purchasing Power Parity (PPP). The eventual compromise mirrored the IMF's 2008 Quota and Voice Reform and adopted a weighted average of GDP at market exchange rates (60 percent) and GDP at PPP (40 percent).

   The voice reform paper highlighted that a realignment of under-represented members' shareholding strictly on the basis of their share of global GDP (using the 60/40 weighting) would generate only a modest 1.3 percent increase in DTC voting power. To achieve the targeted net increase of at least 3 percent, several additional adjustments were adopted. In particular, both developed and developing countries whose actual IBRD shareholding fell below their calculated economic weight were made eligible to subscribe to additional shares.

[26] For further details, refer to World Bank (2020)

This realignment, however, was conditioned on the voluntary restraint of several under-represented members. While Germany, Greece, Portugal, and Spain agreed to forgo part of their potential increase, other countries - including Italy, Ireland, Poland, and Turkey - did not.

Another key element introduced into the GDP component was the so-called "PPP booster." This provision granted countries whose PPP-based economic weight exceeded their IBRD shareholding by 30 percent or more an increase in shareholding of at least 10 percent. Notable beneficiaries of the PPP booster included Egypt, India, Indonesia, and Uganda.

2. **The IDA Component**
   The second component of the formula is derived from countries' contributions to the International Development Association (IDA). The IDA element is based on a weighted measure of donor replenishments: 80 percent reflecting the most recent three replenishments, and 20 percent reflecting historical contributions.

   The IDA component was designed to recognize both past contributions and future pledges. The inclusion of prospective contributions had two explicit objectives: first, to encourage emerging middle-income countries to join the circle of IDA donors, and second, to prevent large DTCs from obstructing the broader voice reform process.

   Before the 2010 voice reform, IDA contributions had only been taken into account in IBRD shareholding calculations on an ad hoc basis. The new framework provided a more systematic and consistent mechanism for incorporating IDA contributions into shareholding allocations.

3. **Compression Factor**
   Finally, a compression factor of 0.95 was applied to the calculated shareholding. This adjustment was intended to reduce disparities between the largest and smallest shareholders, thereby moderating the extent of voting power concentration within the institution.

Appendix Note A.3: The IMF Quota [27]

The quota is the cornerstone of a member's relationship with the International Monetary Fund, as it determines the financial contribution each member is obliged to provide, the amount of resources it can access, and its voting power in the Fund's governance.

Each member's votes consist of a fixed number of basic votes - equal for all members - plus one additional vote for every SDR 100,000 of quota subscribed. The 2008 Quota and Voice Reform introduced a major shift in this structure by fixing basic votes at 5.502 percent of total votes, thereby nearly tripling their share compared to the pre-reform level. This reform marked an important step toward strengthening the relative voice of smaller members within the Fund's decision-making framework.

The most recent reform of the IMF quota formula was adopted in 2008, as part of the broader Quota and Voice Reforms under the Fourteenth General Review of Quotas. The revision aimed to reduce the complexity of the previous multi-formula approach, enhance transparency, and ensure consistency with the multiple roles quotas play within the Fund. The revised quota formula is defined as:

$$\text{Quota}_i = (0.50 \times \text{GDP}_i + 0.30 \times \text{Openness}_i + 0.15 \times \text{Variability}_i + 0.05 \times \text{Reserves}_i)^{0.95}$$

where:

- **GDP** measures the member's economic size. For the purpose of the formula, GDP is expressed as a weighted average of GDP at market exchange rates (60 percent) and GDP at purchasing power parity (PPP) exchange rates (40 percent).
- **Openness** captures the member's integration into the global economy. It is defined as the five-year annual average of the sum of current receipts and current payments (including goods, services, income, and transfers).
- **Economic Variability** reflects the member's exposure to external shocks. It is measured as the standard deviation of current receipts and net capital flows, using a three-year moving average over a thirteen-year period.
- **International Reserves** indicate the member's capacity to contribute to the Fund's resources. This component is based on the twelve-month average of a country's official reserves, which include foreign exchange, Special Drawing Rights (SDRs), reserve positions in the Fund, and monetary gold.
- Finally, a **compression factor** of 0.95 is applied to the formula to reduce dispersion in calculated quota shares across members, thereby moderating the differences between the largest and smallest economies.

This formula serves as the basis for guiding the allocation of quotas, particularly during general reviews, by balancing the representation of economic size, openness, vulnerability, and financial capacity.

[27] For further details, refer to International Monetary Fund (2008)

Appendix Note A.4: Special Drawing Rights (SDRs)

SDRs are an international reserve asset created by the IMF in 1969. They are not a currency; rather, they are a *potential claim on the freely usable currencies* of IMF members. Countries do not spend SDRs directly but can use them by exchanging them for hard currencies (e.g., USD, EUR, JPY) or in certain operations with the IMF (such as paying charges).

Allocation. The IMF allocates SDRs to member countries in proportion to their IMF quota shares, so larger and richer economies receive the largest shares. There have been four general allocations (1970–72, 1979–81, 2009, and 2021) and one special allocation in 2009 (under the Fourth Amendment) to equalize cumulative allocations across members. The 2009 allocation ($250bn) responded to the global financial crisis, and the 2021 allocation ($650bn) to the COVID-19 shock.

Using them. Countries can exchange SDRs for freely usable currencies either through voluntary trading arrangements or, if needed, through IMF designation of a country with a strong external position. The SDR interest rate—determined as a weighted average of short-term government rates in the basket currencies—is applied symmetrically: countries that use (i.e., hold fewer SDRs than allocated) pay interest, while those holding SDRs above their allocation earn interest. Low-income countries, including many in Sub-Saharan Africa, tend to be net users, though there is variation across countries and over time.

Conceptually, an SDR allocation gives a country both an asset (SDR holdings) and a matching liability (its allocation). As long as holdings equal the allocation, the position nets out and carries no cost. When a country exchanges SDRs for hard currency, its holdings fall below its allocation, creating a negative net position within the SDR system on which it pays the SDR interest rate. Conversely, countries holding SDRs above their allocation earn interest. The system is therefore best understood as a multilateral clearing mechanism in which net users pay and net holders receive, with all flows mediated through the IMF's SDR Department rather than through bilateral contracts.

This structure implies that SDRs are not identical to outright-owned reserves such as foreign exchange or gold. They provide immediate, unconditional access to liquidity without maturity or rollover risk, but using them entails an interest cost because it corresponds to running a negative position relative to the initial allocation. In that sense, SDRs combine features of a reserve asset and an embedded overdraft facility within a cooperative international system, rather than representing a pure transfer of unencumbered resources.

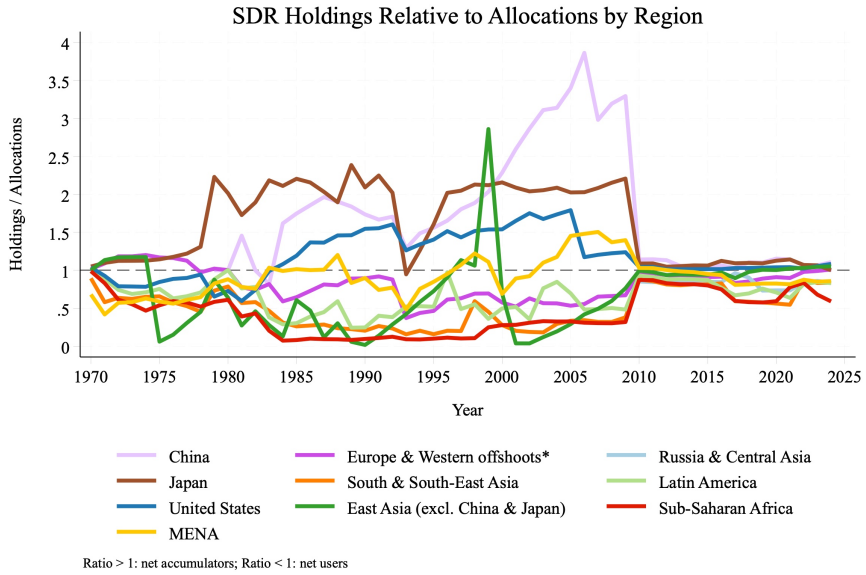
Numerical example. Suppose a country is allocated 100 million SDR. Initially, it holds 100 million SDR, so holdings = allocation and there is no net interest. The country then exchanges 100 million SDR for USD (for illustration, if 1 SDR = 1.3 USD, it receives 130 million USD). After the transaction, its SDR holdings fall to 0 while its allocation remains 100 million SDR, so its net position is −100 million SDR. If the SDR interest rate is 3%, the country pays 3 million SDR per year ($100 \times 3\%$). The counterparty that provided USD now holds +100 million SDR above its allocation and earns 3 million

SDR. If later the country rebuilds its SDR holdings back to 100 million, the net position returns to zero and interest payments stop.

Contrast with standard reserves. Suppose instead the country initially holds 130 million USD in foreign exchange reserves. If it uses these reserves (e.g., to pay for imports), its USD holdings simply fall to zero. There is no corresponding liability and no interest payment arises from using the reserves themselves. The only foregone return is the interest it would have earned had it continued holding the USD assets. By contrast, with SDRs, using them (i.e., reducing holdings below allocation) creates an explicit negative position that carries an interest charge.

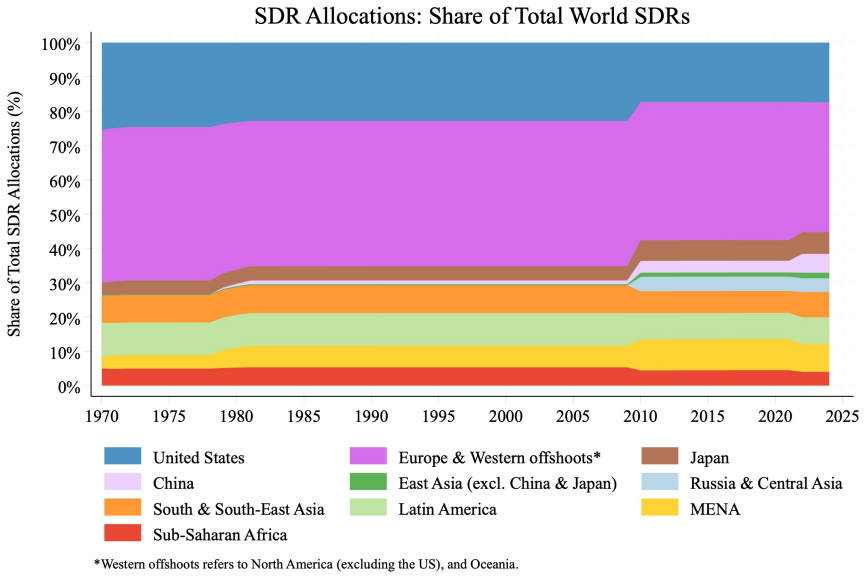
The currency basket. The value of the SDR is based on a basket of five currencies—USD, EUR, JPY, GBP, and CNY (added in 2016)—which is reviewed every five years.

Figure A.2: SDR Holdings-to-Allocation Ratio by Region



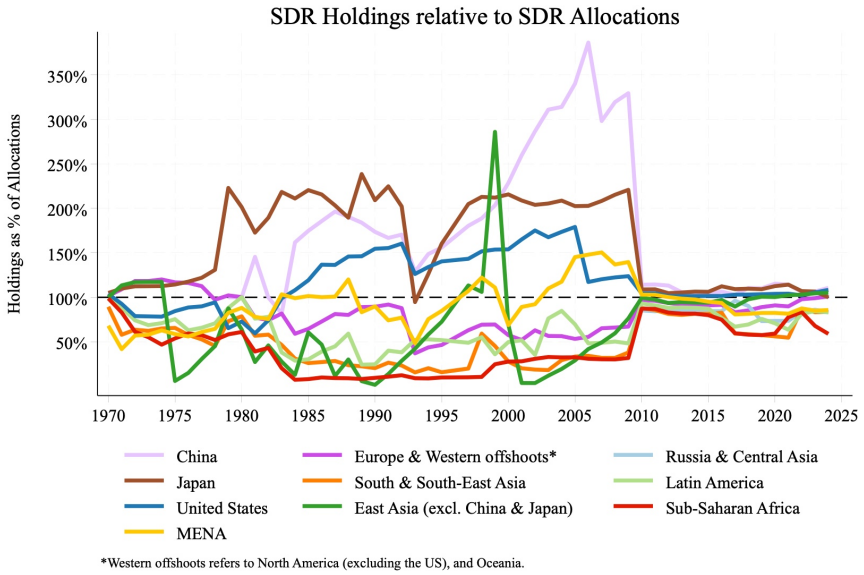
Ratio of SDR holdings to SDR allocations by world region over time. A ratio below 1 indicates the region is a net user of SDRs; above 1 indicates net holding.

Figure A.3: SDR Allocations by Region (Share of Total, Stacked)



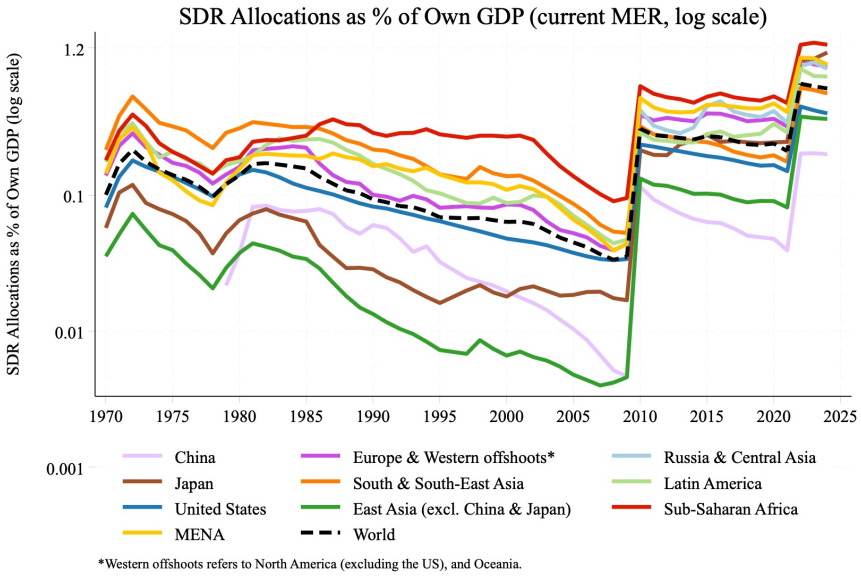
Share of total SDR allocations by world region over time (stacked). Allocations are proportional to IMF quota shares.

Figure A.4: SDR Holdings vs. Allocations by Region



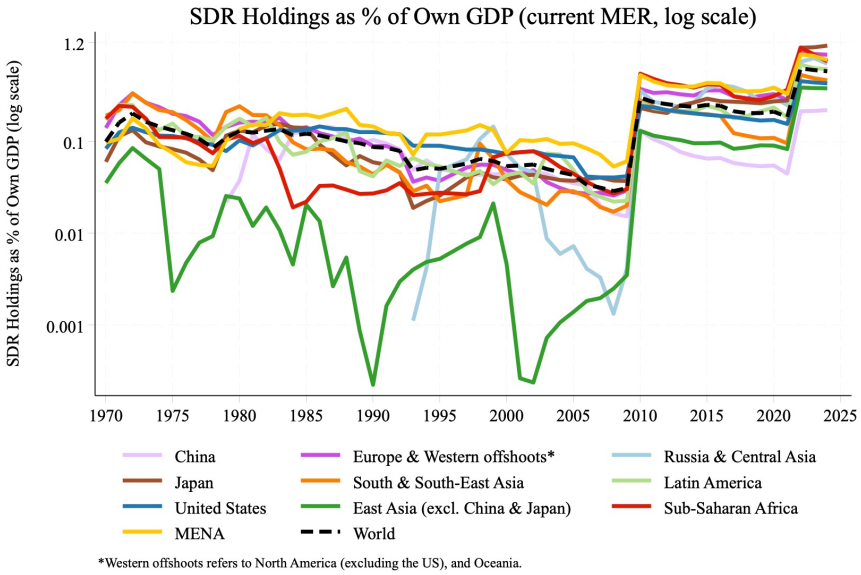
Comparison of SDR holdings and allocations by world region. A gap between holdings and allocations indicates net use (holdings < allocations) or net accumulation (holdings > allocations).

Figure A.5: SDR Allocations as % of Own GDP by Region (log)



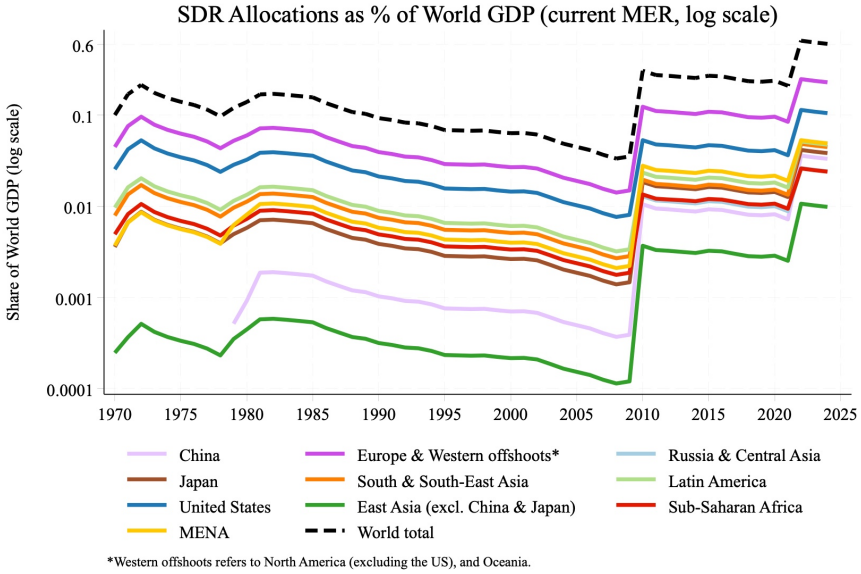
SDR allocations as a share of regional GDP (log scale) over time.

Figure A.6: SDR Holdings as % of Own GDP by Region (log)



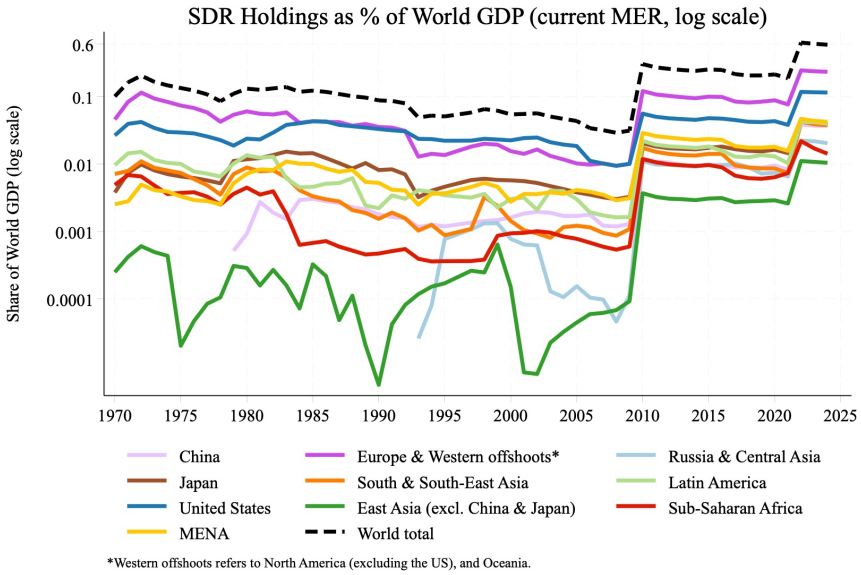
SDR holdings as a share of regional GDP (log scale) over time.

Figure A.7: SDR Allocations as % of World GDP by Region (log)



SDR allocations by region as a share of world GDP (log scale) over time.

Figure A.8: SDR Holdings as % of World GDP by Region (log)



SDR holdings by region as a share of world GDP (log scale) over time.

Appendix Note A.5: The IADB Capital and Voting Structure[28]

The Inter-American Development Bank (IDB/IADB) is financed through subscribed capital stock and retained earnings, with the subscribed stock containing both paid-in and callable components. The paid-in portion is the part actually transferred to the Bank, whereas callable capital acts as a contingent guarantee that can be called only if necessary to meet the Bank's obligations to creditors. As in the World Bank model, this structure allows the Bank to support a much larger lending program than would be possible if members had to transfer the full nominal subscription in cash at the outset.

Voting power in the IDB is tied directly to subscribed capital, subject to a small equal-vote component. Under the Agreement Establishing the IDB, each member receives 135 basic votes plus one additional vote for each share held. Formally,

$$V_i = 135 + S_i,$$

where S_i denotes the number of subscribed voting shares held by member i. The 135-vote allotment compresses the distribution of power at the margin, but the system remains overwhelmingly capital-based: countries that subscribe more shares both contribute more capital and exercise more formal influence.

There is no IMF-style mechanical quota formula that periodically updates shares according to GDP or other macroeconomic indicators. Instead, capital increases are negotiated and approved through the Bank's governance process. When a general capital increase is adopted, members are offered additional subscriptions under terms fixed by the Board of Governors. Because votes follow subscribed shares, these capital increases are simultaneously financing decisions and governance decisions. In other words, changes in members' capital shares alter not only the Bank's lending capacity but also the distribution of formal control.

For the purposes of this paper, the relevant governance variable is therefore the distribution of subscribed capital and the associated voting shares across members. The IDB is not a pure one-share-one-vote institution because of the fixed allotment of basic votes, but it is clearly a contribution-weighted system in which fiscal burden sharing and political influence are tightly linked.

[28] For further details, refer to Inter-American Development Bank (2025).

Appendix Note A.6: The CABEI Capital and Voting Structure[29]

The Central American Bank for Economic Integration (CABEI) uses a distinctive multi-series capital structure. Its subscribed capital is organized around Series "A" shares, held by the founding member countries; Series "B" shares, held by non-founding regional and non-regional members; and Series "C" shares, which are allocated proportionally to existing shareholders in order to bring the book value of shares closer to their nominal value. Series "C" shares do not generate callable capital, but they do confer voting rights. The current legal text also provides for Series "E" certificates linked to retained earnings, but these do not carry votes.

The central voting rule is therefore:

$$V_i = A_i + B_i + C_i,$$

where A_i, B_i, and C_i denote the number of Series "A", "B", and "C" shares attributed to member i. Each share of Series "A", "B", and "C" confers one vote. In the Assembly of Governors, decisions are ordinarily adopted by the majority of votes corresponding to the subscribed capital of the members present, unless the constitutive agreement requires a qualified majority for particular matters. In the vote count, Series "C" shares are explicitly included.

This matters because CABEI is not just a standard paid-in/callable capital bank with a single homogeneous class of voting shares. The founding members occupy a constitutionally privileged position through Series "A", while subsequent capital increases and periodic allocations of Series "C" shares preserve and reinforce existing ownership patterns rather than resetting them. In the current structure, the founding members continue to hold the controlling block of authorized capital and voting shares. The official investor presentation reports that, as of December 2024, founding members accounted for 51% of authorized capital and 53.42% of total share participation.

Methodologically, CABEI should therefore be understood as a share-based institution with formally differentiated classes of capital. Voting power is still fundamentally tied to the stock of subscribed shares, but the series structure makes the system more path-dependent than a simple one-share-one-vote bank. In particular, it entrenches the influence of the founding Central American members even as the Bank broadens its non-founding regional and extra-regional shareholder base.

[29] For the current legal text and the current capital structure, refer to Central American Bank for Economic Integration (2021, 2024).

Appendix Note A.7: The AfDB Capital and Voting Structure[30]

The African Development Bank (AfDB) is a classic share-based multilateral development bank. Members subscribe shares in the Bank's capital stock, which includes paid-in capital and callable capital. The paid-in component is transferred to the Bank, while callable capital remains a contingent commitment that can be called when needed to honor the Bank's obligations to creditors. As in other MDBs, this structure supports leverage in capital markets while limiting the size of the immediate cash transfer required from shareholders.

Voting power combines a fixed membership component with a capital-based component. Under the Agreement Establishing the African Development Bank,

$$V_i = 625 + S_i,$$

where S_i is the number of shares of AfDB capital stock held by member i. Each member receives 625 basic votes and, in addition, one vote for each share subscribed. The fixed component offers some voice protection to smaller members, but the dominant determinant of influence remains shareholding.

A second defining feature of the AfDB is that the regional/non-regional balance is built directly into the capital structure. The official information statements of the Bank make clear that general capital increases are structured so that the regional group holds 60% of total capital stock and the non-regional group 40%. The AfDB is therefore not only capital-weighted but also regionally bounded: the institution can broaden its shareholder base, but its capital constitution preserves a majority for African regional members.

For this paper, the AfDB should be classified as a contribution-weighted institution with a moderate equalizing correction. The 625 basic votes matter for very small shareholders, but they do not break the core link between financial contribution and formal control. At the same time, the 60/40 regional rule means that the capital constitution is not neutral across categories of members: it deliberately preserves a regional majority while still allocating most influence within each bloc according to subscribed shares.

[30] For further details, refer to African Development Bank (2016, 2025).

Appendix Note A.8: The ADB Capital and Voting Structure[31]

The Asian Development Bank (ADB) is financed through subscribed capital stock and retained earnings, with capital subscriptions backed by paid-in and callable commitments. The callable component serves as a guarantee rather than an upfront transfer and, as in other MDBs, is central to the Bank's funding model. Capital increases are decided by the Board of Governors and are not governed by a mechanical IMF-style quota formula. Instead, they are negotiated political decisions about both the scale of the Bank and the distribution of influence across members.

ADB's voting rule combines basic votes and proportional votes:

$$V_i = B_i + P_i.$$

The basic votes of each member are defined as the number of votes resulting from the equal distribution among all members of 20% of the aggregate sum of basic and proportional votes. The proportional votes of each member are equal to the number of shares of the capital stock of ADB held by that member. This means that the basic-vote component is not a fixed number, as in the IDB or AfDB, but a fixed fraction of the overall vote total.

The ADB charter also builds in a regional ownership constraint. No new subscription may be authorized if it would reduce the percentage of capital stock held by regional members below 60% of total subscribed capital stock. The Bank is therefore regionally anchored in a way that resembles the AfDB, though its equal-vote component is stronger than in most other share-based MDBs.

Methodologically, ADB should be treated as a contribution-weighted institution with a larger formal equalization mechanism than the World Bank, EBRD, or NDB. The 20% basic-vote rule reduces the concentration of voting power relative to a pure one-share-one-vote system, but voting power still rises directly with capital subscriptions. As a result, capital increases and rebalancings remain constitutionally significant events: they alter both financing commitments and the distribution of voice.

[31] For further details, refer to Asian Development Bank (2026).

Appendix Note A.9: The CAF Capital and Voting Structure[32]

CAF–Development Bank of Latin America and the Caribbean uses a more complex capital constitution than the standard MDB model. Its authorized capital is divided into ordinary capital and guarantee capital. Ordinary capital is split into three series: Series "A", reserved for the governments of the member countries or entities designated by them; Series "B", held by governments or public, semipublic, or private entities of member countries; and Series "C", held by legal entities or individuals outside the member countries. Guarantee capital, which functions as callable capital, is divided into Series "B" and Series "C" and is called pro rata when needed to meet CAF's obligations.

CAF's governance rules are hybrid. At the level of shareholder meetings, control does not operate through a simple one-share-one-vote rule. Instead, regular decisions require a majority representing at least 60% of Series "A" shares plus half plus one of the other shares represented at the meeting. Special meetings require 80% of Series "A" shares plus half plus one of the other shares represented. Shareholders in arrears in their capital contributions lose their voting rights. This gives the sovereign Series "A" shareholders a gatekeeping role over major institutional decisions.

At the level of Board elections, however, capital matters directly. The Agreement states that, for the election of Directors, each shareholder has a number of votes equal to the number of paid-in shares held or represented. In addition, the Board structure itself differentiates across shareholder classes: each Series "A" shareholder appoints a Director and an Alternate, while Series "B" and Series "C" shareholders elect Directors according to the rules set out in the Agreement.

CAF is therefore neither a pure one-country-one-vote institution nor a pure share-weighted MDB. It is best understood as a layered constitutional system. Series "A" sovereign shareholders retain decisive control over foundational and constitutional decisions, while capital subscriptions in Series "B" and especially Series "C" shape operational influence, Board representation, and marginal voting strength. For this reason, CAF is an especially important intermediate case in any comparison between equal-representation and contribution-weighted governance.

[32] For further details, refer to CAF – Development Bank of Latin America and the Caribbean (2022).

Appendix Note A.10: The CDB Capital and Voting Structure[33]

The Caribbean Development Bank (CDB) is organized as a share-based bank in which members subscribe capital stock and exercise voting rights through a combination of basic and share-based votes. As in other MDBs, the subscribed stock provides the financial foundation for the Bank's operations and for its ability to borrow in capital markets. The Agreement Establishing the CDB treats capital subscriptions as the core financial relationship between members and the institution.

The voting rule is straightforward:

$$V_i = 150 + S_i,$$

where S_i denotes the number of shares of capital stock held by member i. Each member has 150 basic votes plus one additional vote for each share held. In the Board of Governors, each Governor casts the votes of the member or members represented, and ordinary decisions are taken by a majority of the voting power represented at the meeting unless the Agreement provides otherwise.

The economic logic of the system is therefore clear. The 150-vote allotment gives every member a minimum voice, but most voting power is still determined by capital stock. Larger shareholders provide more capital and receive more formal influence. CDB is thus not meaningfully separated from the broader contribution-weighted MDB family; it simply contains a modest basic-vote correction.

For this paper, the key implication is that CDB belongs on the capital-weighted side of the constitutional spectrum. Its governance rules do not sever the link between who pays and who rules. They soften that link only slightly by granting all members a fixed block of votes before the share-based component is added.

[33] For further details, refer to Caribbean Development Bank (1970).

Appendix Note A.11: The BADEA Capital and Voting Structure[34]

The Arab Bank for Economic Development in Africa (BADEA) is financed through subscribed capital stock contributed by its member countries. The institution's capital structure is simpler than that of some other MDBs because its membership base is limited to Arab states and it does not have the same regional/non-regional ownership distinction that characterizes institutions such as the AfDB, ADB, or AIIB. Nevertheless, it remains a capital-subscription institution in which governance is tied to the distribution of shares.

The voting rule follows the familiar mixed formula:

$$V_i = 200 + S_i,$$

where S_i denotes the number of shares in BADEA's capital stock held by member i. Each member country receives 200 basic votes by virtue of membership and one additional vote for every share held in the capital stock. Ordinary decisions of the Board of Governors are taken by a majority of the votes represented at the meeting, unless the Establishment Agreement specifies a higher threshold.

The implication is that BADEA contains a small equal-membership element, but remains predominantly capital-weighted. The fixed block of 200 votes gives smaller shareholders a base level of voice, yet capital subscriptions continue to determine the distribution of most formal power. In that respect, BADEA resembles the IDB, AfDB, CDB, and IsDB more than it resembles equal-representation institutions.

Methodologically, BADEA should therefore be coded as a contribution-weighted institution with a basic-vote correction. Its formal governance does not decouple financial burden sharing from political influence; it only attenuates the relationship modestly by assigning each member a fixed minimum number of votes.

[34] For further details, refer to Arab Bank for Economic Development in Africa (2024).

Appendix Note A.12: The IsDB Capital and Voting Structure[35]

The Islamic Development Bank (IsDB) is a share-based multilateral development bank whose financial relationship with members is defined through capital subscriptions. The Bank's capital is denominated in Islamic Dinars and is periodically expanded through General Capital Increases approved by the Board of Governors. Unlike the IMF, IsDB does not operate with a quota formula based on macroeconomic indicators. Changes in members' relative positions instead occur through negotiated changes in the stock of subscribed shares.

The voting rule in the Board of Governors is:

$$V_i = 500 + S_i,$$

where S_i denotes the number of subscribed shares held by member i. Each member receives 500 basic votes plus one vote for every share subscribed. Ordinary resolutions are generally taken by a majority of the voting power represented at the meeting, provided that a quorum is present. The fixed block of 500 votes gives all members a minimum institutional voice, but the main determinant of formal power remains shareholding.

This means that IsDB belongs in the family of mixed capital-voting institutions. It is more egalitarian than a pure one-share-one-vote bank such as the EBRD or NDB, but it does not separate financing from control. Larger shareholders provide more capital and, through the same mechanism, receive more formal influence. The addition of basic votes moderates but does not eliminate this relationship.

For the purposes of this paper, the relevant governance measure is therefore the distribution of subscribed shares and the resulting voting power. In constitutional terms, IsDB sits between equal-representation institutions and the purest share-based MDBs. Its 500 basic votes create some compression in the vote distribution, but the institution remains clearly contribution-weighted in its overall design.

[35] For further details, refer to Islamic Development Bank (2023).

Appendix Note A.13: The EBRD Capital and Voting Structure[36]

The European Bank for Reconstruction and Development (EBRD) is one of the clearest examples of a pure capital-weighted MDB. Members subscribe shares of the Bank's capital stock, and the original stock was divided into paid-in and callable shares in a 3:7 proportion. Callable capital serves as a contingent guarantee behind the Bank's borrowing, while paid-in capital is transferred to the institution according to the schedule laid down in the Agreement. The Board of Governors may authorize capital increases, and members are given the opportunity to subscribe proportionately to preserve their existing share positions.

Unlike many other MDBs, EBRD does not use a basic-votes mechanism. The treaty states simply that:

$$V_i = S_i,$$

where S_i is the number of subscribed shares held by member i. In other words, formal voting power is equal to subscribed capital stock. If a member fails to pay amounts due on its paid-in shares, the corresponding fraction of its voting power is suspended until payment is made.

The EBRD treaty also contains an important geopolitical ownership rule. No new subscription may be authorized if it would reduce the percentage of capital stock held by the member states of the European Community, together with the European Community itself and the European Investment Bank, below a majority of total subscribed capital stock. The Bank is therefore not only capital-weighted but also constitutionally structured to preserve a European controlling bloc.

In methodological terms, EBRD should be treated as one of the purest contribution-weighted institutions in the sample. There is no equal-vote correction and no basic-vote floor. Who pays and who rules are linked almost one-for-one through subscribed shares, subject only to the treaty-based preservation of a European majority.

[36] For further details, refer to European Bank for Reconstruction and Development (2025).

Appendix Note A.14: The NDB Capital and Voting Structure[37]

The New Development Bank (NDB) was founded with an initial authorized capital of US$100 billion, divided into 1,000,000 shares with a par value of US$100,000 each. Its initial subscribed capital was set at US$50 billion, of which US$10 billion was paid-in and US$40 billion callable. The five founding members subscribed equal initial shares. This structure gives the NDB a straightforward and transparent capital base that differs from older MDBs mainly in the equal founding subscriptions and in the explicit constitutional protection granted to the founding bloc.

NDB uses a pure share-voting rule:

$$V_i = S_i,$$

where S_i is the number of subscribed shares held by member i. There are no basic votes and no separate founding-member bonus votes. In that sense, the NDB is closer to the EBRD than to the IDB, AfDB, ADB, or AIIB. The bank's formal governance is therefore highly sensitive to the distribution of subscribed capital.

At the same time, the NDB's constitution prevents new accessions from overturning the founding structure. Official NDB materials state that the combined voting power of the founding members will be maintained at a minimum of 55%. In addition, certain major decisions require a special majority defined as an affirmative vote of four of the founding members concurrent with an affirmative vote of two-thirds of the total voting power of the members. The NDB is therefore pure share-voting at the ordinary level, but with explicit founder-protection clauses embedded in the constitution.

For this paper, the NDB is best understood as a capital-weighted institution with strong founding-member entrenchment. Contributions and voting power move together one-for-one, but the path of future dilution is constrained by treaty rules that preserve the collective control of the original BRICS shareholders.

[37] For further details, refer to New Development Bank (2022, 2025).

Appendix Note A.15: The AIIB Capital and Voting Structure[38]

The Asian Infrastructure Investment Bank (AIIB) combines a standard MDB capital structure with a more elaborate voting formula than most other recent banks. Its authorized capital stock is US$100 billion, divided into 1,000,000 shares of US$100,000 each. The original authorized stock was divided into paid-in shares worth US$20 billion and callable shares worth US$80 billion. Original subscriptions were made in a 2:8 ratio of paid-in to callable shares, and the paid-in portion was to be paid in five equal annual installments. As in the AfDB and ADB, AIIB also contains a regional ownership rule: absent a super-majority decision, subscriptions may not reduce the share of regional members below 75% of total subscribed capital stock.

AIIB's voting rule has three components:

$$V_i = B_i + S_i + F_i,$$

where B_i denotes basic votes, S_i denotes share votes, and F_i denotes founding-member votes. The basic votes are determined by an equal distribution among all members of 12% of the aggregate sum of basic votes, share votes, and founding-member votes. Share votes are equal to the number of shares held by the member. In addition, each founding member receives 600 founding-member votes.

This makes AIIB more egalitarian than a pure one-share-one-vote bank, but still clearly capital-weighted overall. The share-vote component remains dominant, especially for the largest shareholders, while the basic-vote and founding-member-vote components reduce concentration only partially. The design therefore combines three objectives: preserving the importance of capital subscriptions, giving all members a meaningful minimum voice, and rewarding the original founding coalition.

Methodologically, AIIB should be classified as a contribution-weighted institution with both a basic-vote correction and a founding-member premium. Relative to the NDB or EBRD, it is less purely capital-proportional. Relative to the ADB, AfDB, or IDB, it adds an explicit founding-member bonus on top of the usual basic/share decomposition.

B. Data Coverage

[38] For further details, refer to Asian Infrastructure Investment Bank (2015).

Table A.1: Data Coverage of organizations and agencies affiliated to the United Nations (1919-2024)[a]

Official Name of Institution	Acronym	Active Period	Contributions		Expenses[d]
			Assessed[b]	Voluntary[c]	
International Telecommunication Union	ITU	1865–2024	1964–2024	1991–2024	2010–2024
Universal Postal Union	UPU	1874–2024	1964–2024	1991–2008	2010–2024
Pan American Health Organization	PAHO	1902–2024	2006–2024	2004–2024	2013–2024
International Labour Organization	ILO	1919–2024	1948–2024	1991–2024	2010–2024
League of Nations	LoN	1920–1946	1919–1943	–	–
Food and Agriculture Organization of the United Nations	FAO	1945–2024	1957–2024	1991–2024	2010–2024
United Nations General Budget	UNGB	1945–2024	1947–2024	1977–2024	2013–2024
United Nations Educational, Scientific and Cultural Organization	UNESCO	1946–2024	1958–2024	1991–2024	2010–2024
United Nations Children's Fund	UNICEF	1946–2024	N.A.[e]	1947–2024	1947–2024
International Civil Aviation Organization	ICAO	1947–2024	1957–2024	1991–2024	2010–2024
World Health Organization	WHO	1948–2024	1957–2024	1991–2024	2009–2024
Economic Commission for Latin America and the Caribbean	ECLAC	1948–2024	N.A.[e]	N.A.[e]	2010
United Nations Relief and Works Agency for Palestine Refugees	UNRWA	1949–2024	N.A.[e]	1991–2024	1969–2024
World Meteorological Organization	WMO	1950–2024	1964–2024	1991–2024	2010–2024
United Nations High Commissioner for Refugees	UNHCR	1950–2024	N.A.[e]	1991–2024	1969–2024
International Organization for Migration	IOM	1951–2024	2006–2024	2004–2024	2013–2024
United Nations Peacekeeping Operations	UNDPO[e]	1956–2024	1980–2022	1991–2024	2013–2024
International Atomic Energy Agency	IAEA	1957–2024	1961–2024	1991–2024	2006–2024
International Maritime Organization	IMO	1958–2024	1964–2022	1991–2024	2010–2024
World Food Programme	WFP	1961–2024	N.A.[e]	1991–2024	1969–2024
United Nations Institute for Training and Research	UNITAR	1963–2024	N.A.[e]	1991–2024	2013–2024
United Nations Research Institute for Social Development	UNRISD	1963–2024	N.A.[e]	2017–2024	–
International Agency for Research on Cancer	IARC	1965–2024	2018–2024	2018–2024	2018–2024
United Nations Development Programme	UNDP	1965–2024	N.A.[e]	1991–2024	1968–2024
United Nations Industrial Development Organization	UNIDO	1966–2024	1987–2024	1991–2024	2010–2024
United Nations Capital Development Fund	UNCDF	1966–2024	N.A.[e]	2017–2024	2010–2024
International Trade Centre	ITC	1968–2024	N.A.[e]	1991–2024	2010–2024
United Nations Interregional Crime and Justice Research Institute	UNICRI	1968–2024	N.A.[d]	2021–2024	2021–2024
United Nations Population Fund	UNFPA	1969–2024	N.A.[e]	1991–2024	1977–2024
World Intellectual Property Organization	WIPO	1970–2024	1976–2024	1991–2024	2010–2024
United Nations Environment Programme	UNEP	1972–2024	2012–2024	1991–2024	2010–2024
United Nations University	UNU	1973–2024	N.A.[e]	1991–2024	2013–2024
United Nations World Tourism Organization	UNWTO	1974–2024	2006–2024	2002–2024	2010–2024
International Fund for Agricultural Development	IFAD	1977–2024	N.A.[e]	2004–2024	1979–2024
United Nations Human Settlements Programme	UNHABITAT	1978–2024	N.A.[e]	1991–2024	2010–2024
International Centre for Genetic Engineering and Biotechnology	ICGEB	1983–2024	2008–2011	2004–2007	–
International Criminal Tribunal for the former Yugoslavia	ICTY	1993–2017	N.A.[e]	2004–2009	–

Official Name of Institution	Acronym	Active Period	Contributions		Expenses[d]
			Assessed[b]	Voluntary[c]	
International Seabed Authority	ISA	1994–2024	2021–2024	2021–2024	2021–2024
United Nations Framework Convention on Climate Change	UNFCCC	1994–2024	2017–2024	2004–2024	2017–2024
World Trade Organization	WTO	1995–2024	2010–2024	2004–2024	2013–2024
United Nations Office for Project Services	UNOPS	1995–2024	N.A.[e]	2013–2015	2013–2024
Comprehensive Nuclear-Test-Ban Treaty Organization	CTBTO	1996–2024	2008–2024	2005–2024	2017–2024
International Tribunal for the Law of the Sea	ITLOS	1996–2024	2019–2024	2020–2024	2019–2024
United Nations Convention to Combat Desertification	UNCCD	1996–2024	2021–2024	2021–2024	2021–2024
Joint United Nations Programme on HIV/AIDS	UNAIDS	1996–2024	N.A.[e]	2004–2024	2005–2024
Organisation for the Prohibition of Chemical Weapons	OPCW	1997–2024	2018–2024	2018–2024	2018–2024
United Nations Office on Drugs and Crime	UNODC	1997–2024	N.A.[e]	2004–2024	2010–2024
United Nations System Staff College	UNSSC	2002–2024	N.A.[e]	2017–2024	2017–2024
International Criminal Court	ICC	2002–2024	2017–2024	2017–2024	2017–2024
Unitaid	UNITAID	2006–2024	N.A.[e]	2018–2024	2018–2024
United Nations Peacebuilding Fund	UNPBF	2006–2024	N.A.[e]	1991–2024	2007–2023
International Residual Mechanism for Criminal Tribunals	IRMCT	2010–2024	2022–2024	–	2022–2024
United Nations Entity for Gender Equality and the Empowerment of Women	UNWOMEN	2010–2024	N.A.[e]	2011–2024	2013–2024
United Nations Institute for Disarmament Research	UNIDIR	1980–2024	N.A.[e]	2017–2024	2019–2023
United Nations Development Coordination Office	UNDCO	2019–2024	N.A.[e]	2019–2024	2019–2023
Central Emergency Response Fund	CERF	2006–2024	N.A.[e]	2006–2024	2017–2023
United Nations Volunteers Programme	UNV	1970–2024	N.A.[e]	1991–2024	2020–2024
Aggregate data, not separated by institutions[g]					1960–2013

[a] Expenses and contributions for the period 2013–2023 were obtained from the Financial Statistics database of the United Nations System Chief Executives Board for Coordination (UNSCEB, 2025a,b). For earlier years, contribution data from the League of Nations and the United Nations were manually digitized from archival reports published under titles such as Comprehensive Statistical Analysis of the Financing of Operational Activities of the United Nations System and Administrative and Budgetary Co-ordination of the United Nations with the Specialized Agencies, corresponding to each respective year. In a few cases - namely for UNICEF, UNHCR, and WFP - institutions' individual annual financial reports were used. All of these reports are available in the United Nations Digital Library (https://digitallibrary.un.org/). For earlier years (1960–1986), we rely on OECD DAC2A data for most UN agencies, with the exception of UNICEF, for which we digitized annual report data going back to 1947. The DAC2A dataset reports annual multilateral expenditures by donor institutions and recipient countries. A key limitation of these data is that they capture only UN core funding and, by construction, exclude all earmarked (voluntary) contributions. This implies that our database lacks some information that we were unable to access and will be updated periodically as new data become available. We hope that our research efforts contribute to more consistent reporting of these data by international organizations. We would like to stress that, despite these limitations, our database is— to the best of our knowledge —the most comprehensive dataset on the functioning of international organizations.

[b] Data on assessed contributions is available for most years within the indicated coverage periods, however occasional internal gaps remain: Years 1966, 1970, 1973, 1975, and 1986 are systematically missing for the following 11 institutions: FAO, IAEA, ICAO, ILO, IMO, ITU, UNESCO, UPU, UnitedNations, WHO, WMO. Extended institution-specific gaps include: CTBTO (2012-2016), UNDPO (1994-2003), UnitedNations (1929, 1944-1946), WHO (2002-2003), and WMO (2017). Missing values within these gaps are linearly interpolated. For the UNDPO, data for the period 1980–1989 report only total peacekeeping expenditures and do not provide the corresponding scales of assessment. For these years, we therefore apply the 1991 scale of assessment retrospectively.

[c] Data on voluntary contributions is available for most years within the indicated coverage periods, however occasional internal gaps remain: Year 2012 is systematically missing for most institutions due to data collection issues. Extended gaps (5+ years) exist for CTBTO and UNFCCC (2010-2016), United Nations (1990-2009), and IOM (2008-2012). Shorter gaps (2-4 years) occur for IAEA (2010, 2012), UNDPO (2010-2011, 2014), UNEP (2004-2005), and UNRISD (2019-2021). Isolated missing years include UNU (1996) and UN-Tech Bank (2021). Missing values within these gaps are linearly interpolated.

[d] Data on expenditures from UN institutions is available for most years within the indicated coverage periods, however occasional internal gaps remain: Years 2011 and 2012 are systematically missing for most institutions due to data collection issues. Moderate gaps (4–10 years) exist for UNCDF (2011–2016), FAO (2014–2016). Minor gaps (1–3 years) are observed for UNICEF (1951) and UNFPA (1978). Missing values within these gaps are linearly interpolated. While most United Nations expenditures are reported at the recipient-country level, a substantial fraction - especially in earlier years - is available only at the regional level or classified as unspecified/interregional. We allocate these funds proportionally to their observed shares of expenditures assigned to each country.

[e] Assessed contribution data do not exist for these institutions, as their operations are financed exclusively through voluntary contributions, supplemented in some instances by self-generated income, but do not involve any assessed contributions.

[f] Although UN peacekeeping operations started in 1948, they were financed through the UN regular budget until 1956. A distinct budget for UN peacekeeping operations has existed from 1956 onward but the Department of Peacekeeping Operations was only formally created in 1992.

[g] For some United Nations expenditure data, figures are not reported at the level of individual agencies.

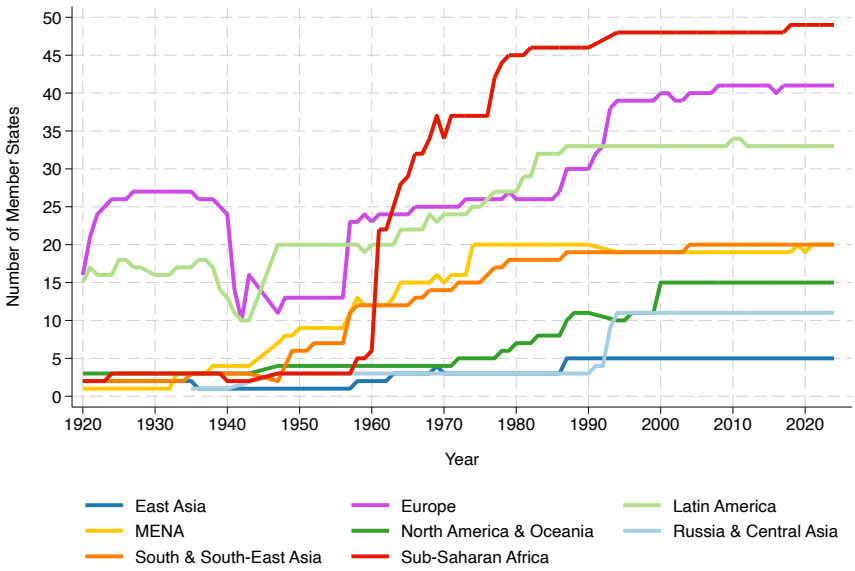
Table A.2: Data Coverage of Bretton Woods Institutions and Multilateral Development Banks (1946-2023)

Founded	Acronym	Official Name of Institution	Voting Quota	Capital Subscriptions	Loans	Interest Rate/ Charges	Principal Repayments	Interest Repayments
Bretton Woods Institutions								
1944	IMF	International Monetary Fund	1946–2023	1946–2023	1947–2023	1947–2023	1947–2023	1947–2023
1944	IBRD	International Bank for Reconstruction and Development	1946–2023	1946–2022	1946–2023	1946–2023	1946–2023	1946–2023
1960	IDA	International Development Association	1962–2023	1962–2023	1962–2023	1962–2023	1962–2023	1962–2023
Multilateral Development Banks								
1959	IADB	Inter-American Development Bank	1960–2023	1960–2023	1970–2023	1970–2023	1970–2023	1970–2023
1960	CABEI	Central American Bank for Economic Integration	1961–2023	1961–2023	1970–2023	1970–2023	1970–2023	1970–2023
1964	AfDB	African Development Bank	1977–2023	1977–2023	1970–2023	1970–2023	1970–2023	1970–2023
1966	ADB	Asian Development Bank	1967–2023	1967–2023	1970–2023	1970–2023	1970–2023	1970–2023
1968	CAF	Development Bank of Latin America and the Caribbean	1991–2023	1991–2023	1970–2023	1970–2023	1970–2023	1970–2023
1969	CDB	Caribbean Development Bank	2001–2023	2001–2023	1970–2023	1970–2023	1970–2023	1970–2023
1973	BADEA	Arab Bank for Economic Development in Africa	2000–2023	2000–2023	1973–2023	1973–2023	1973–2023	1973–2023
1973	IsDB	Islamic Development Bank	2008–2023	2008–2023	1973–2023	1973–2023	1973–2023	1973–2023
1991	EBRD	European Bank for Reconstruction and Development	2000–2023	2000–2023	1991–2023	1991–2023	1991–2023	1991–2023
2014	NDB	New Development Bank	2015–2023	2015–2023	2015–2023	2015–2023	2015–2023	2015–2023
2015	AIIB	Asian Infrastructure Investment Bank	2015–2023	2015–2023	2015–2023	2015–2023	2015–2023	2015–2023

Data on loans, interest rates or charges, principal repayments, and interest repayments from 1970 onward for all Bretton Woods institutions and multilateral development banks are sourced from the World Bank International Debt Statistics (World Bank Group, 2025c). Information on IBRD and IDA operations prior to 1970 is drawn from the IBRD Statement of Loans and Guarantees (World Bank Group, 2025a) and the IDA Statement of Loans and Guarantees (World Bank Group, 2025b), both accessible via the World Bank's Finances One platform. Historical IMF data were digitized using the IMF Annual Reports from 1946–1969 (International Monetary Fund) and supplemented with data on IMF arrangements compiled by Vreeland (2007). Due to the lack of a comprehensive dataset, data on capital subscriptions and voting quotas for all multilateral development banks were digitized from the banks' respective annual financial reports.

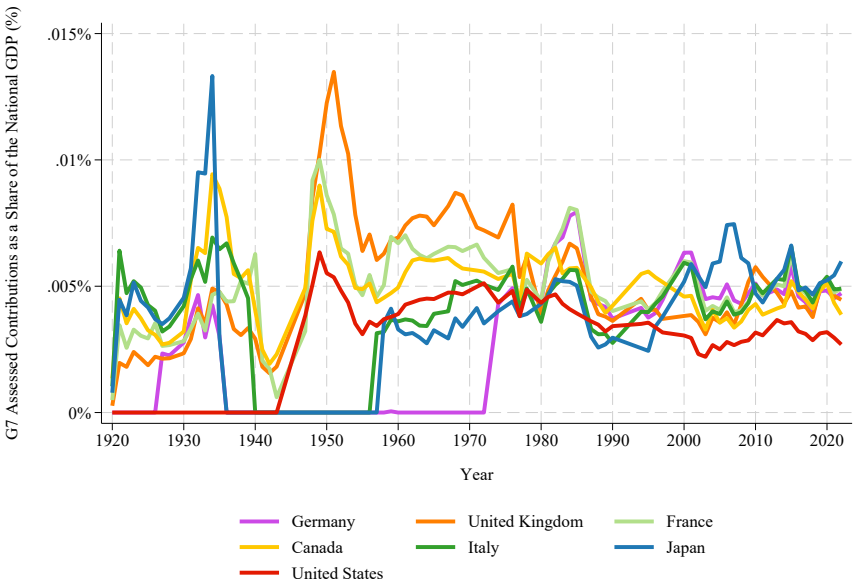
C. Additional Figures and Tables

Figure A.9: Number of LoN/UN Member States by Region Over Time



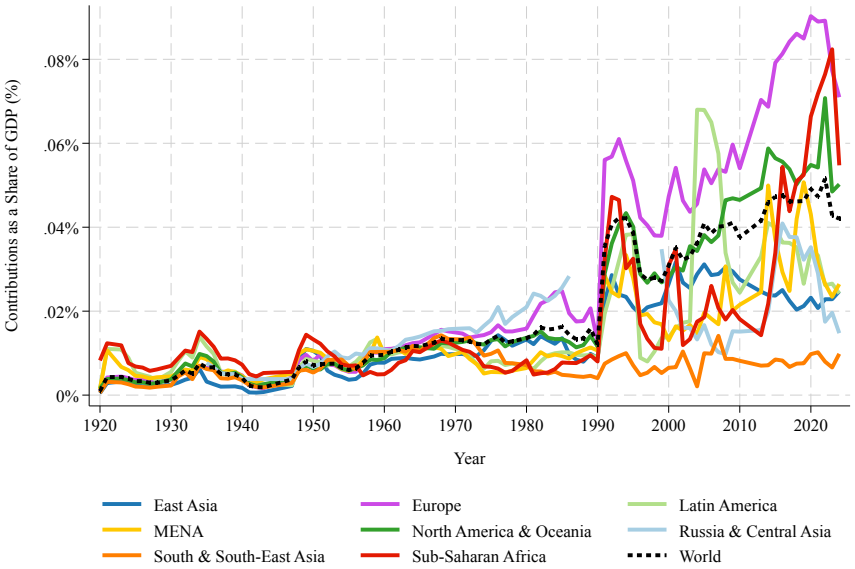
Countries contribute to the UN general budget yearly. Before 1944 data is for the League of Nations (LoN). The decline in membership during the 1930s reflects the withdrawal of several states, including Germany (1933), Japan (1933), and Italy (1937), as well as the expulsion of the Soviet Union (1939). Although the LoN was never formally dissolved during WW2, its active membership had already contracted substantially before the war; its functions were transferred to the UN in 1946.

Figure A.10: UN System: Assessed Contributions of G7 Members as a Share of National GDP



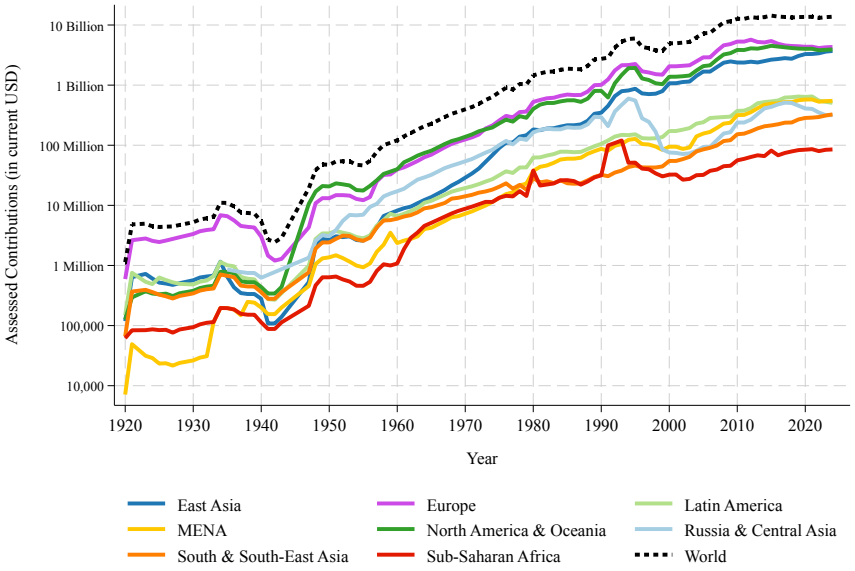
Assessed contributions to the UN system as a share of national GDP for each G7 member over time. Contributions include the UN regular budget and specialized agencies financed through assessed scales. The United States consistently contributes the least as a share of GDP among G7 economies, reflecting the binding effect of the assessment ceiling rate. Data from UN CEB Financial Statistics (2013 onward); earlier years manually digitized from archival sources. GDP from the World Inequality Database.

Figure A.11: Total UN System Contributions by States as a Share of GDP (%)



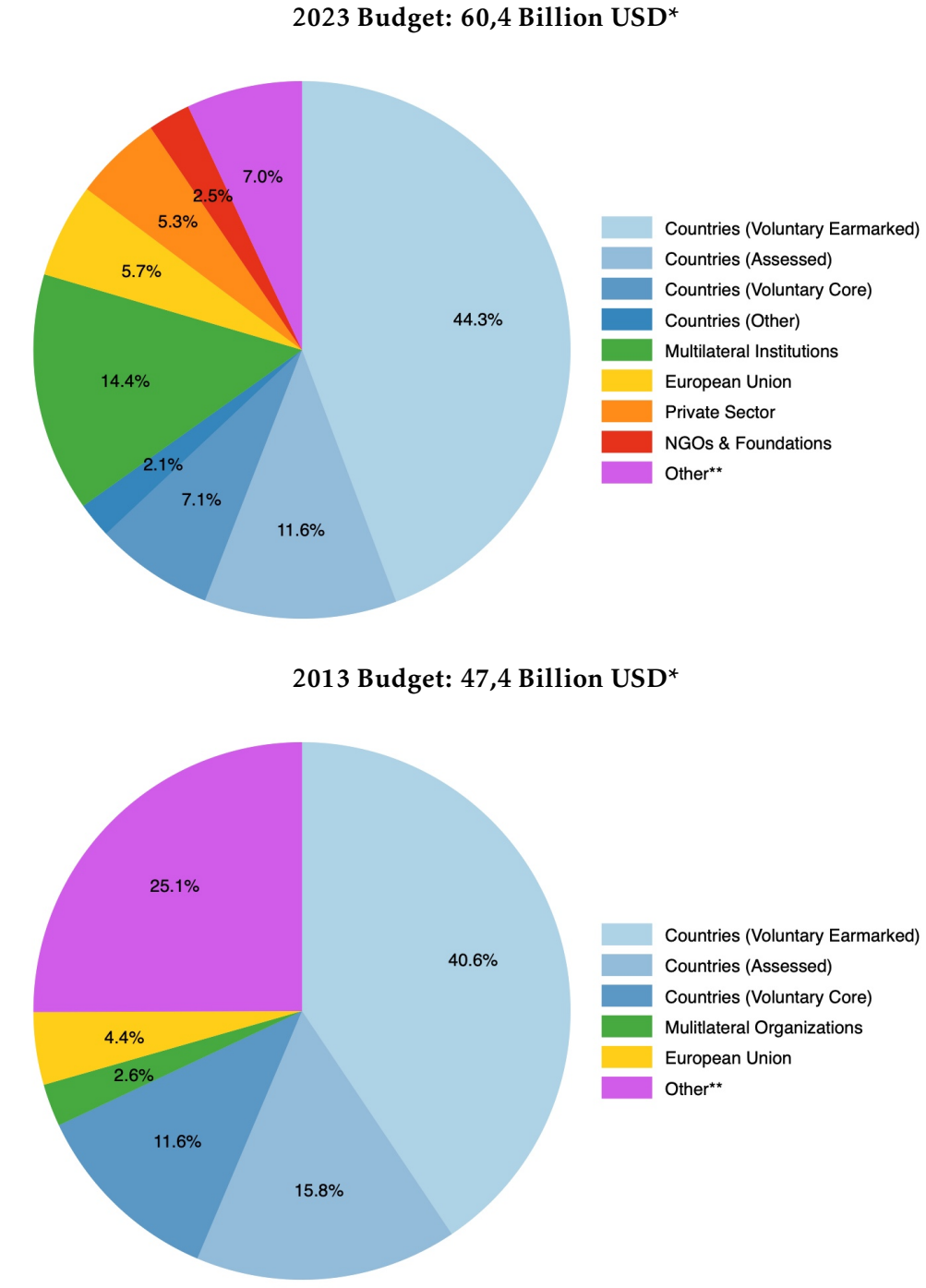
Total contributions (assessed plus voluntary) to the UN system by member states, expressed as a share of national GDP, aggregated by world region over time. Each line represents a major world region. Data from UN CEB Financial Statistics (2013 onward); earlier years manually digitized from archival sources. GDP from the World Inequality Database.

Figure A.12: Assessed UN System Contributions by States in nominal USD (log)



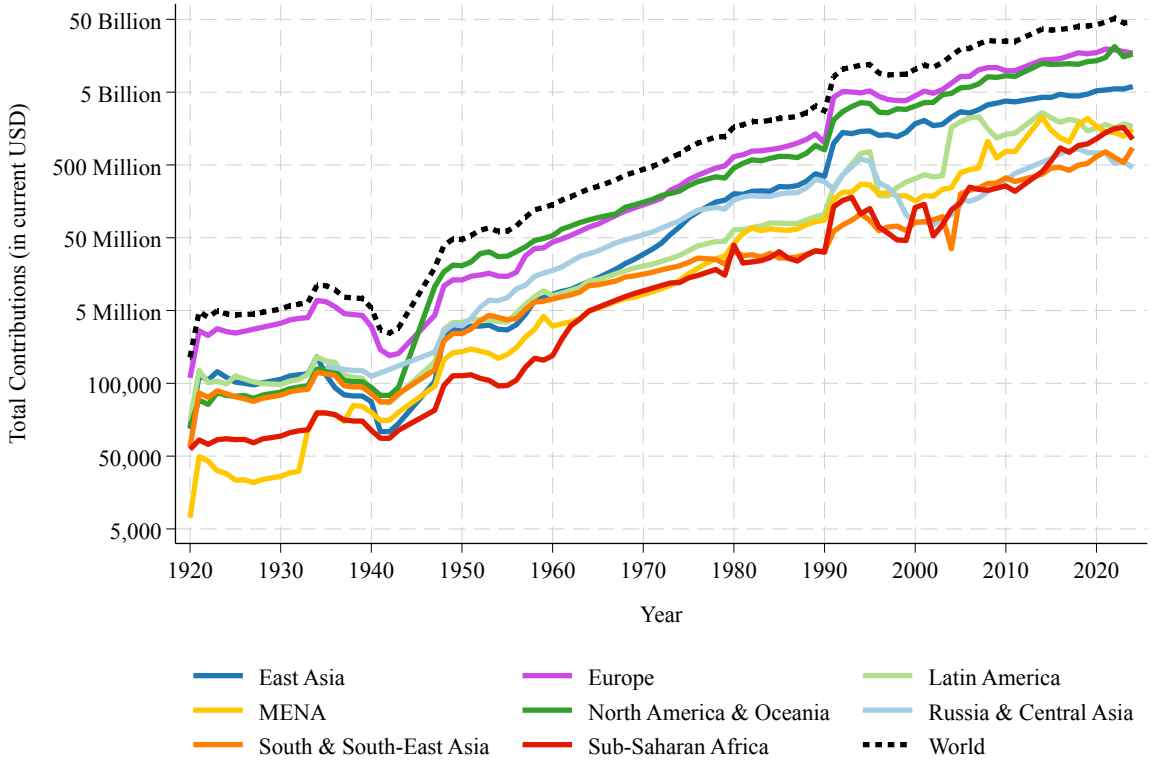
Total assessed contributions to the UN system by member states, in nominal US dollars (log scale), aggregated by world region over time. Covers the UN regular budget and all specialized agencies financed through assessed scales. Data from UN CEB Financial Statistics (2013 onward); earlier years manually digitized from archival sources.

Figure A.13: United Nations Budget Composition by Donors: 2013 vs. 2023



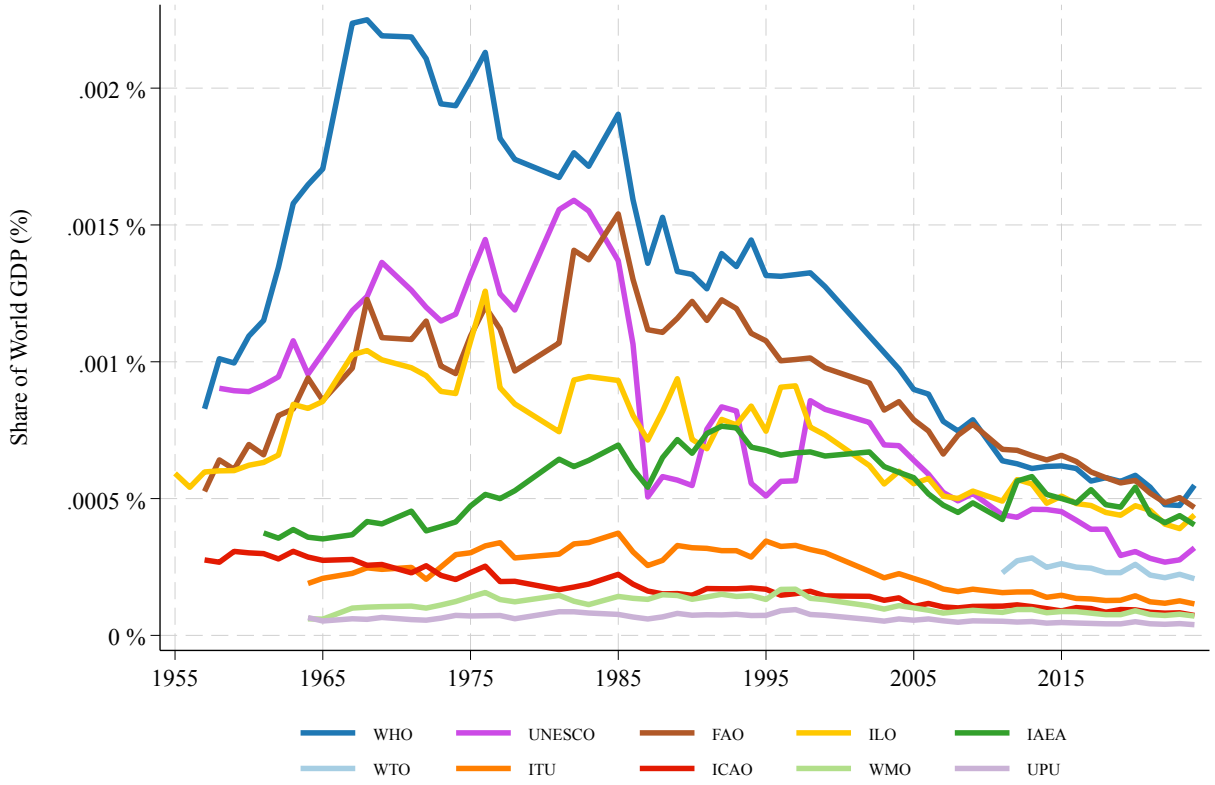
* The Total Budget excludes the UN Peacekeeping Budget (7,2 Billion in 2013 and 7,1 Billion in 2023) due to data constraints.
** "Other" includes revenue from public-private partnerships, academic, training and research institutions, and various other donors or unspecified sources.

Figure A.14: Total UN System Contributions by States in nominal USD (log)



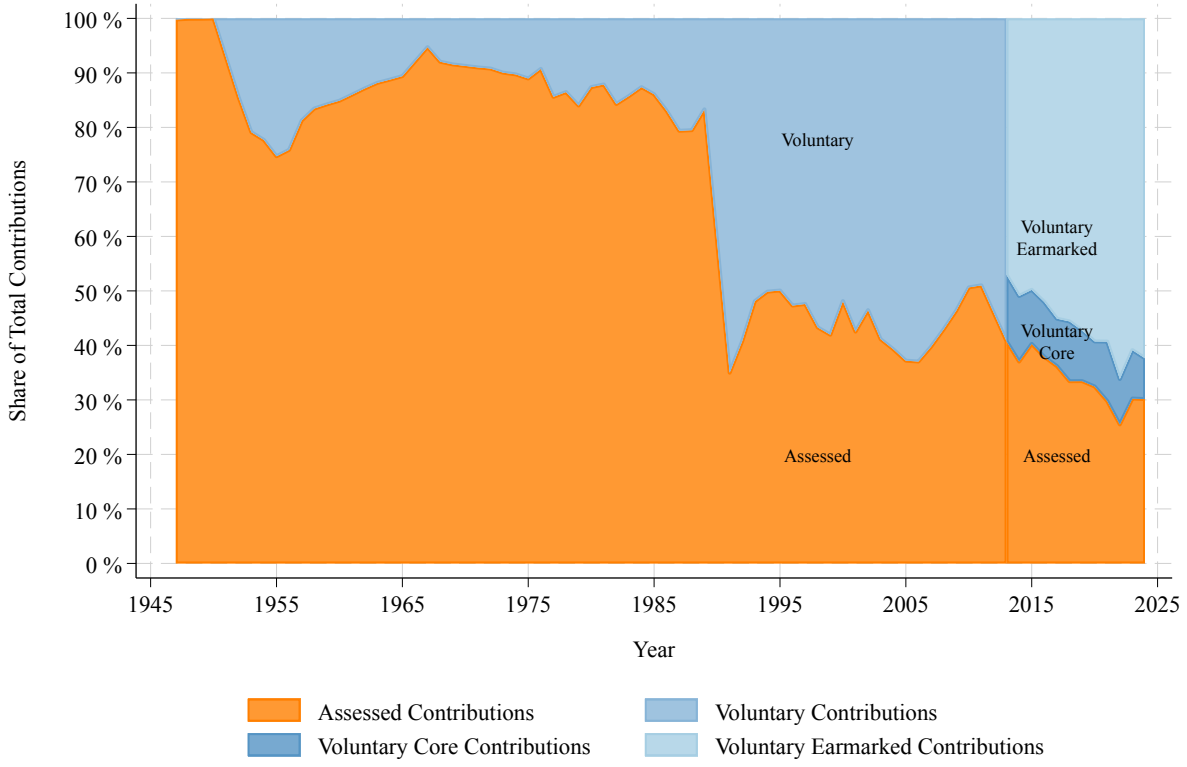
Total contributions (assessed plus voluntary) to the UN system by member states, in nominal US dollars (log scale), aggregated by world region over time. Each line represents a major world region. Data from UN CEB Financial Statistics (2013 onward); earlier years manually digitized from archival sources.

Figure A.15: Assessed Contributions to Major UN Agencies (% of World GDP)



Assessed contributions to individual UN agencies expressed as a share of world GDP over time. Each line corresponds to a single agency. The figure illustrates the relative scale and evolution of assessed financing across the UN system. Data from UN CEB Financial Statistics (2013 onward); earlier years manually digitized from archival sources. GDP from the World Inequality Database.

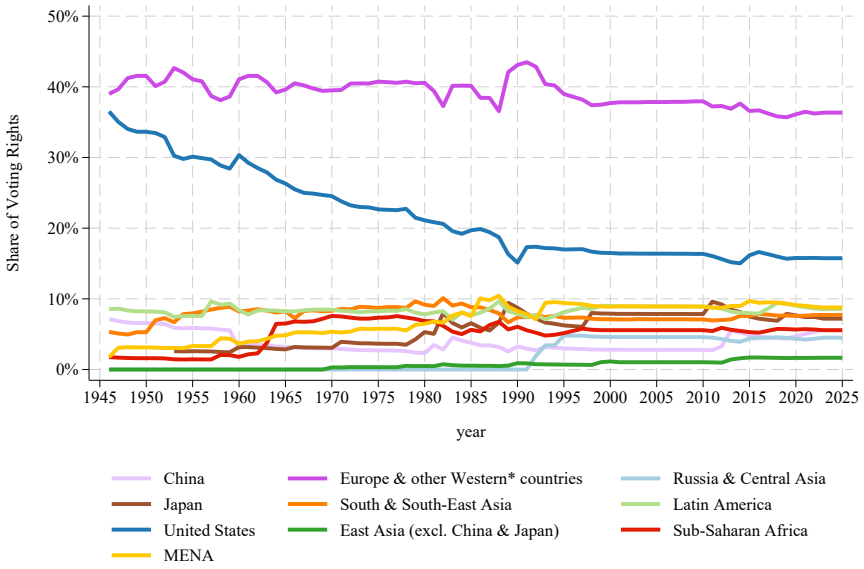
Figure A.16: Trends in assessed and voluntary funding flows in the UN System



From 2013 onward, available data distinguishes core and earmarked voluntary contributions. Earlier years report a single combined total on voluntary contributions.

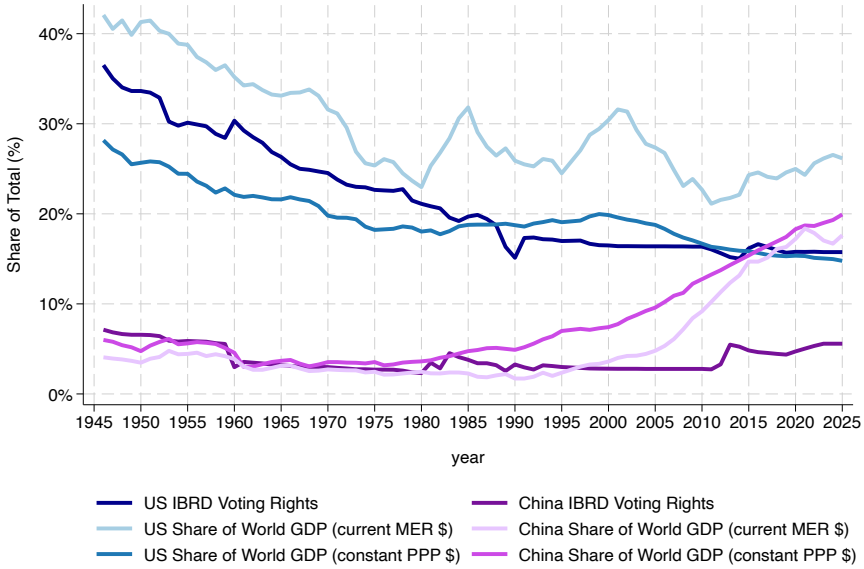
In 2022, assessed contributions from government donors amounted to approximately USD 6.8 billion, while total government contributions reached USD 46.6 billion (see Appendix Figure A.14). This discrepancy is primarily driven by the sharp increase in voluntary contributions over the past decades which represent nowadays 85.4% of the total UN contributions, and the stagnation of assessed contributions (see Figure A.16 above). Of particular relevance is the rise in earmarked (non-core) voluntary contributions, which are allocated by member states to specific purposes, regions, or projects. This development has contributed to what is often referred to as the bilateralization of UN financing (Graham, 2017; Baumann, 2021). While voluntary contributions offer clear advantages for donor countries - such as avoiding binding, long-term budgetary commitments and directing funds in line with their own strategic priorities - the growing reliance of the United Nations on such financing mechanisms has been subject to significant criticism from the literature (Laurenti, 2018; Graham, 2015, 2023). Voluntary funding is often seen as undermining the coherence of the system, limiting accountability, impeding long-term planning, increasing financial volatility, and potentially distorting programmatic priorities by steering UN activities toward donor-driven agendas rather than collectively agreed mandates.

Figure A.17: Voting Power in the IBRD by Region



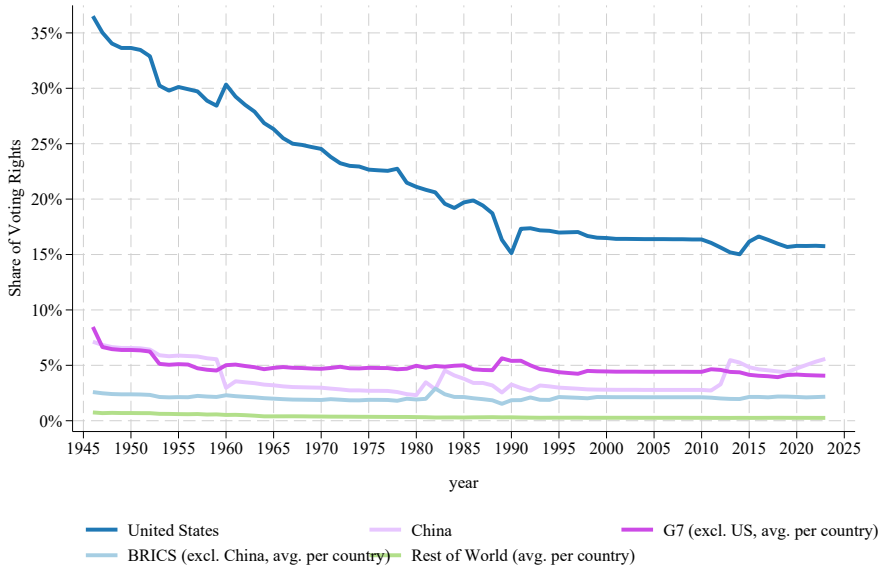
*Other Western Countries refers to North America (excluding the US) and Oceania.

Figure A.18: Voting Power in the IBRD and GDP Over Time



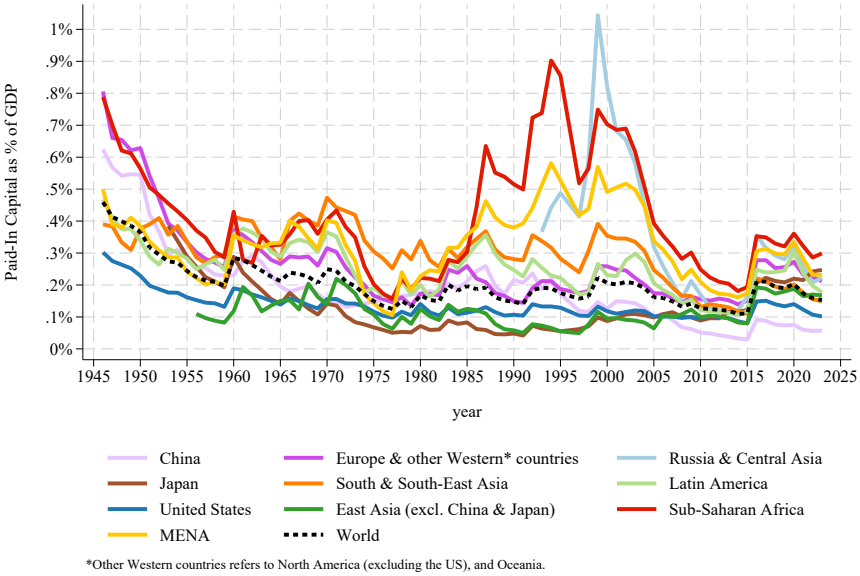
Voting power in the IBRD and share of world GDP for the United States and China over time. Voting power is based on subscribed capital shares. The figure highlights the growing gap between China's rising share of world GDP and its still-limited IBRD voting power, as well as the persistent overrepresentation of the United States relative to its GDP share. Data from World Bank annual reports; GDP from the World Inequality Database.

Figure A.19: IBRD Voting Power: US, China, G7, BRICS, and Rest of World



G7 and BRICS exclude the US and China respectively. G7: Canada, France, Germany, Italy, Japan, UK. BRICS: Brazil, India, Russia, South Africa. Lines for G7, BRICS, and RoW show average vote share per country.

Figure A.20: IMF Contributions as % of GDP by Region



*Other Western countries refers to North America (excluding the US), and Oceania.

Figure A.21: IMF Cost per 1% Vote (% of GDP) by Region

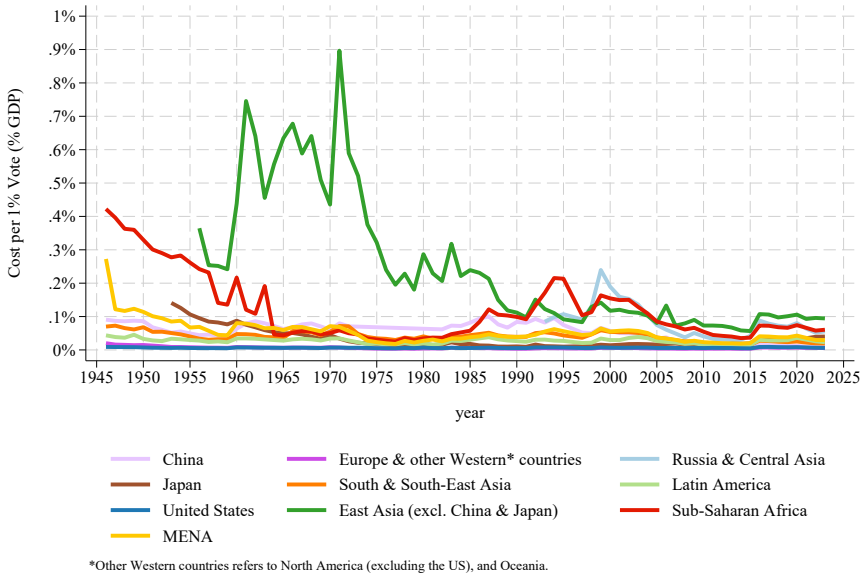


Figure A.22: IMF Cost per 1% Vote (% of GDP) by Region (excl. East Asia)

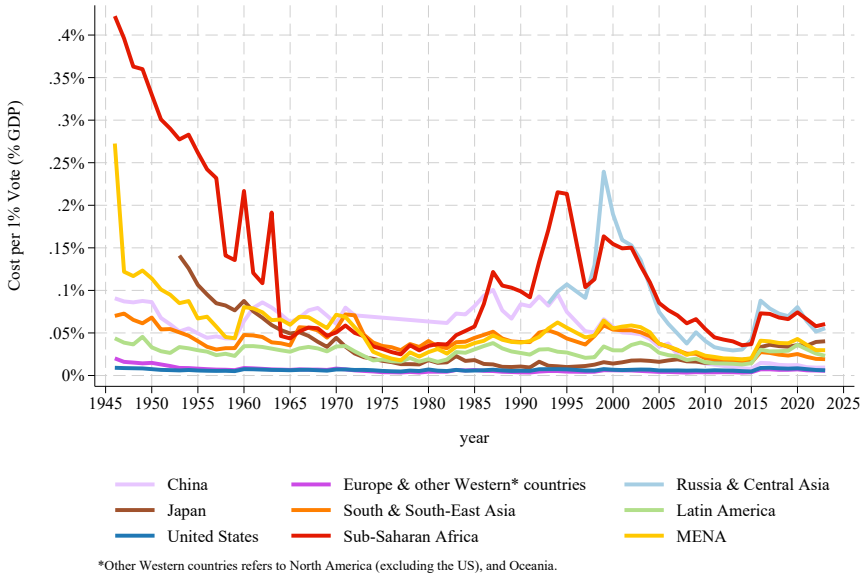


Figure A.23: IBRD Contributions as % of GDP by Region

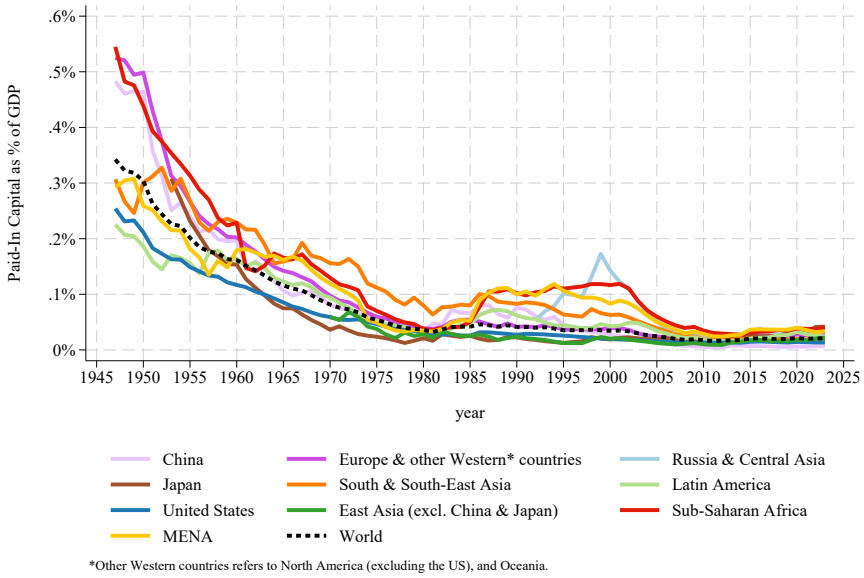


Figure A.24: IBRD Cost per 1% Vote (% of GDP) by Region

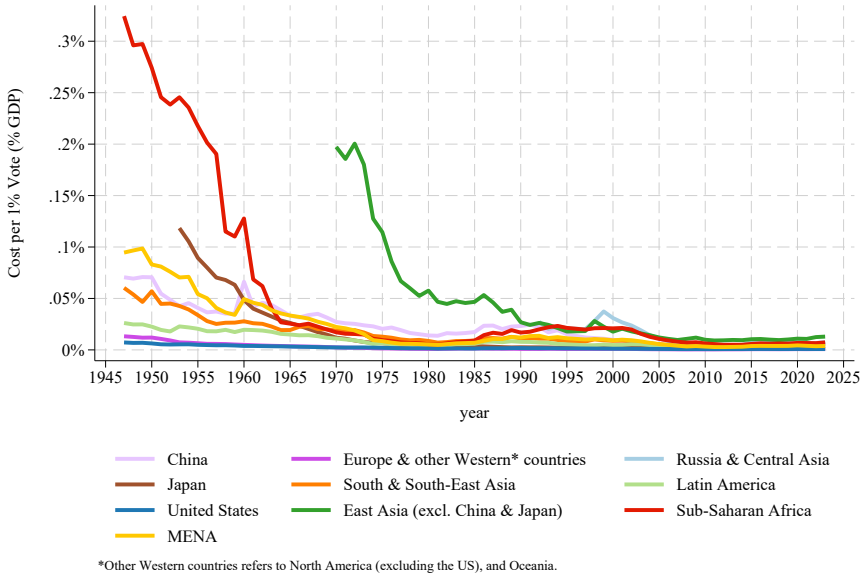


Figure A.25: IBRD Cost per 1% Vote (% of GDP) by Region (excl. East Asia)

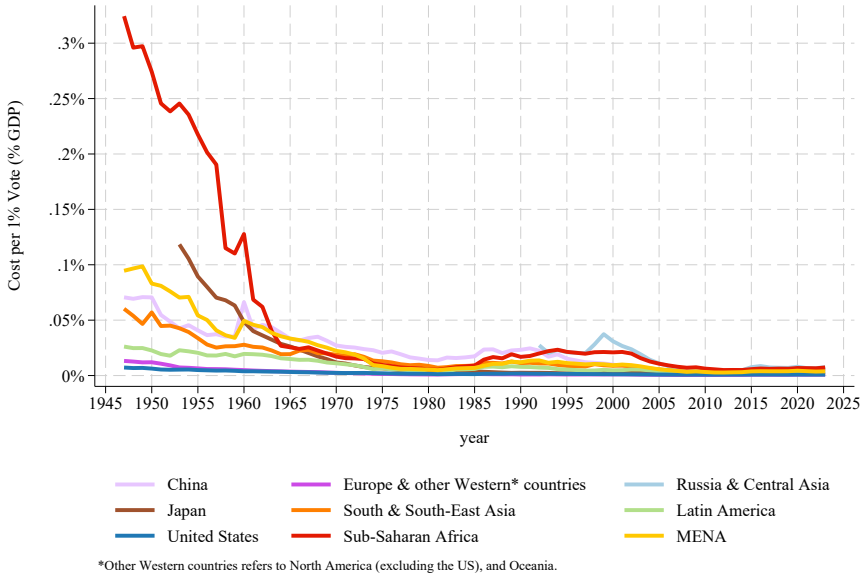
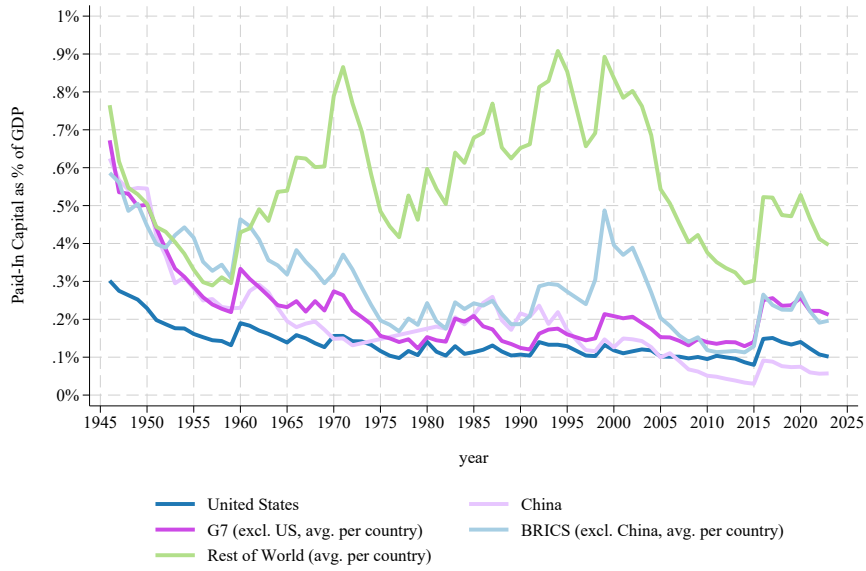
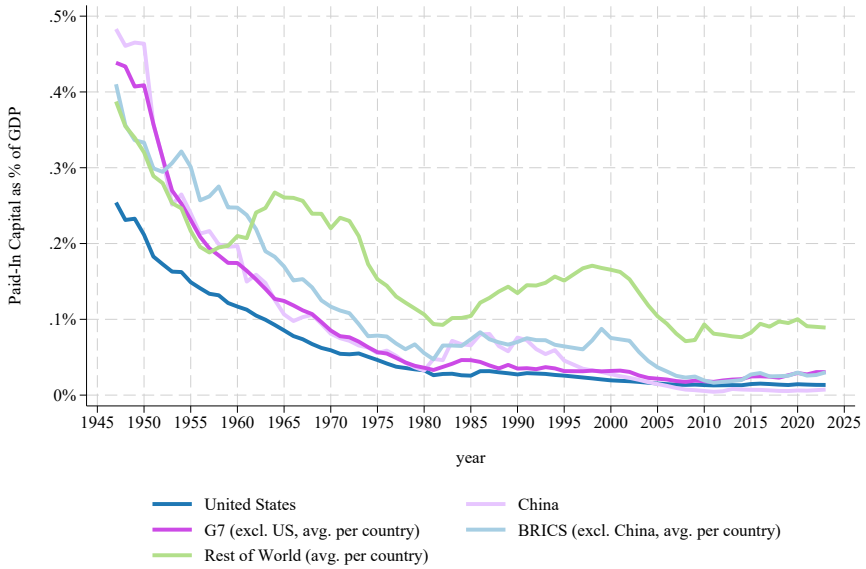


Figure A.26: IMF Contributions as % of GDP: US, China, G7, BRICS, and Rest of World



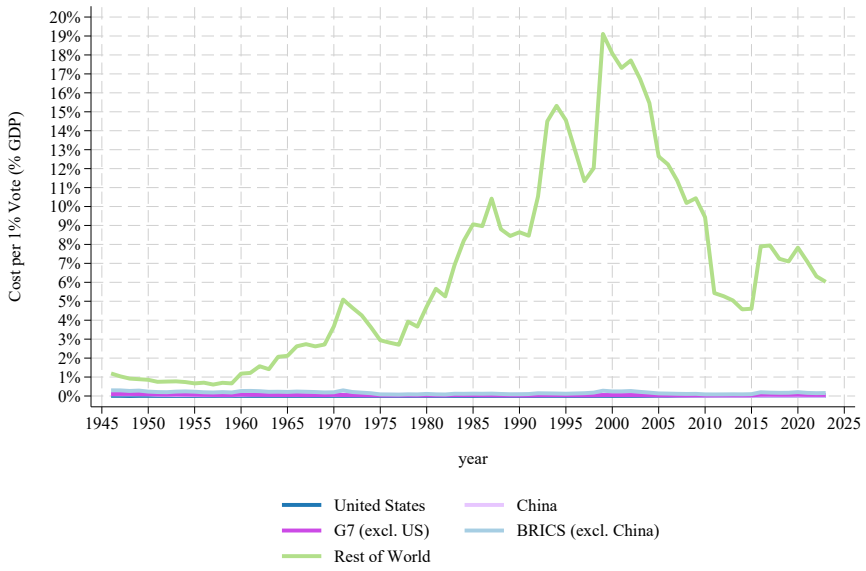
G7 and BRICS exclude the US and China respectively. Lines for G7, BRICS, and RoW show average paid-in capital as % of GDP per country.

Figure A.27: IBRD Contributions as % of GDP: US, China, G7, BRICS, and Rest of World



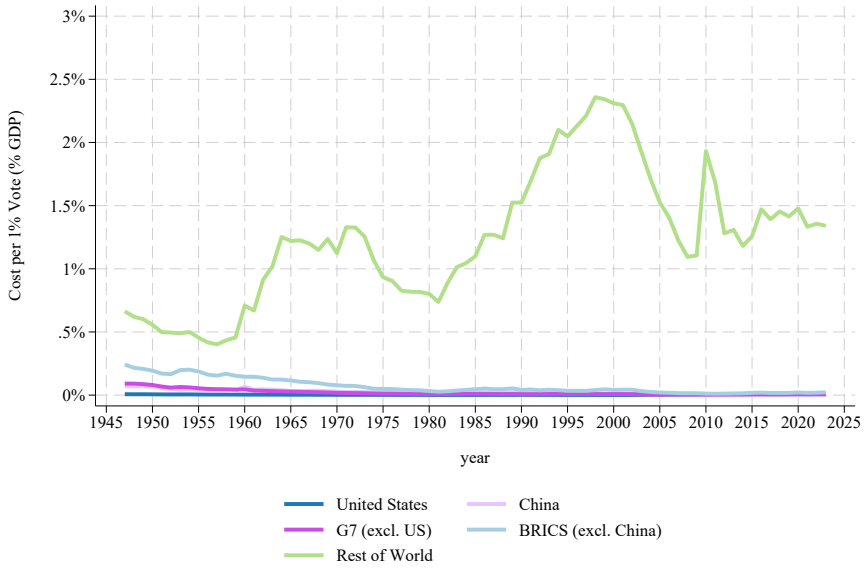
G7 and BRICS exclude the US and China respectively. Lines for G7, BRICS, and RoW show average paid-in capital as % of GDP per country.

Figure A.28: IMF Cost per 1% Vote (% of GDP): US, China, G7, BRICS, and Rest of World



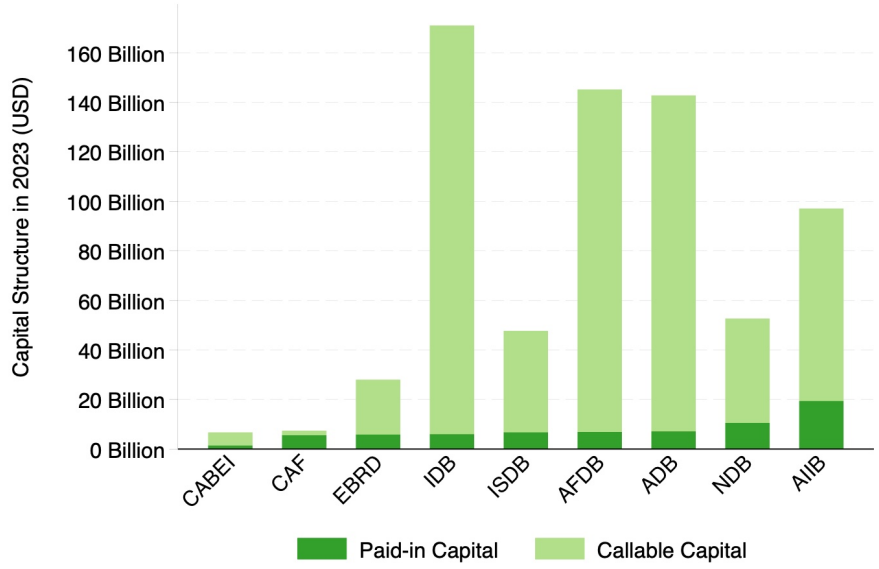
G7 and BRICS exclude the US and China respectively. Lines for G7, BRICS, and RoW show average cost per 1% vote as % of GDP per country.

Figure A.29: IBRD Cost per 1% Vote (% of GDP): US, China, G7, BRICS, and Rest of World



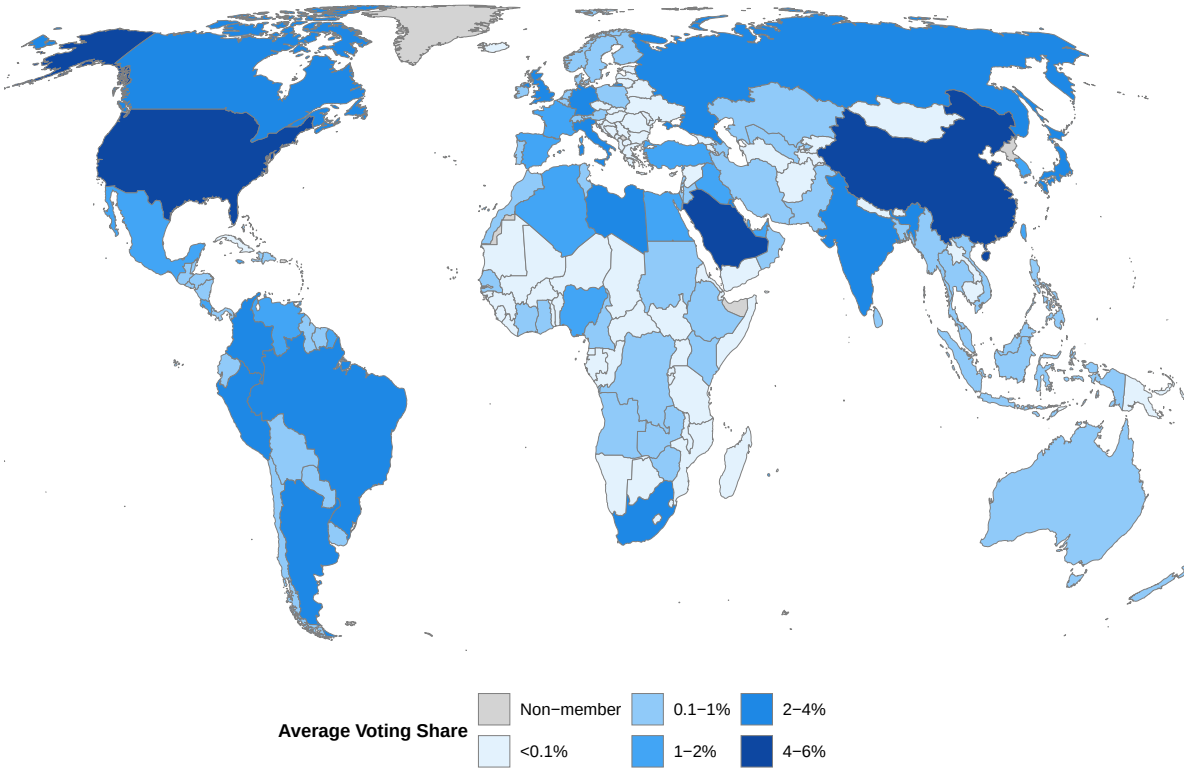
G7 and BRICS exclude the US and China respectively. Lines for G7, BRICS, and RoW show average cost per 1% vote as % of GDP per country.

Figure A.30: Structure of Subscribed Capital of MDBs in 2023



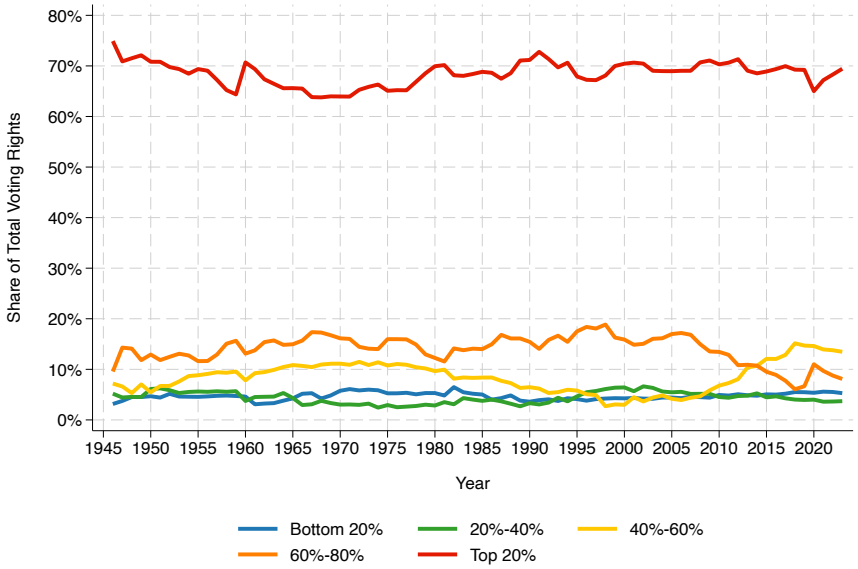
Composition of subscribed capital across multilateral development banks in 2023. Each bar shows the share of total subscribed capital held by major shareholders and country groups. Subscribed capital includes both paid-in and callable portions. Data from the annual reports of each MDB.

Figure A.31: Average Voting Power Across Multilateral Development Banks



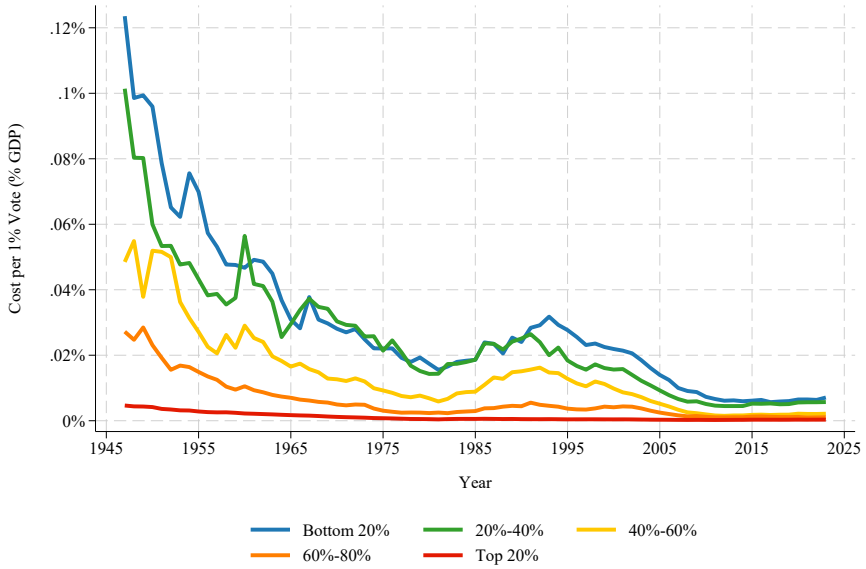
Voting power data from 2023. Average calculated across all 11 MDBs (countries receive 0% for banks they are not members of). Shares sum up to 100% across all MDBs and countries. Includes: ADB, AfDB, AIIB, BADEA, CABEI, CAF, CDB, EBRD, IDB, IsDB, NDB.

Figure A.32: IBRD Voting Power by Income Quintiles



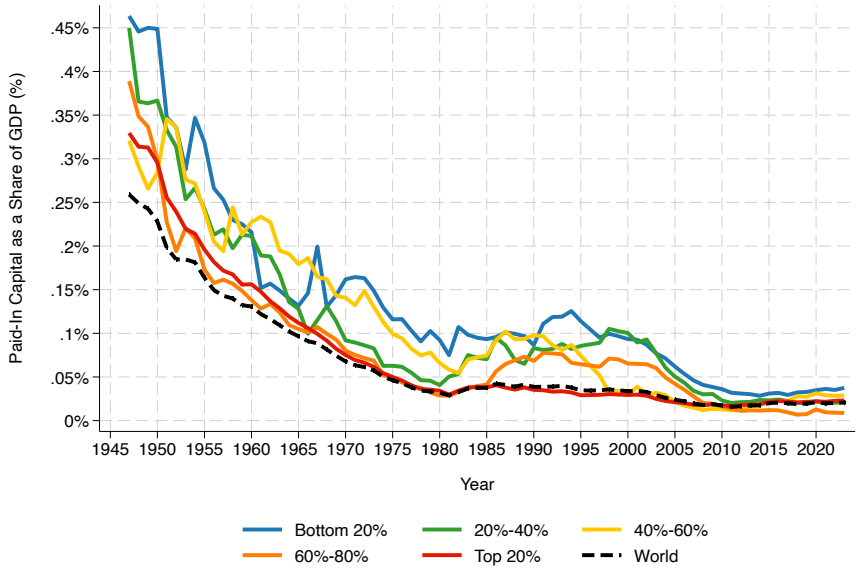
Share of total IBRD voting power held by each income quintile over time. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.33: World Bank Cost per Vote as % of GDP



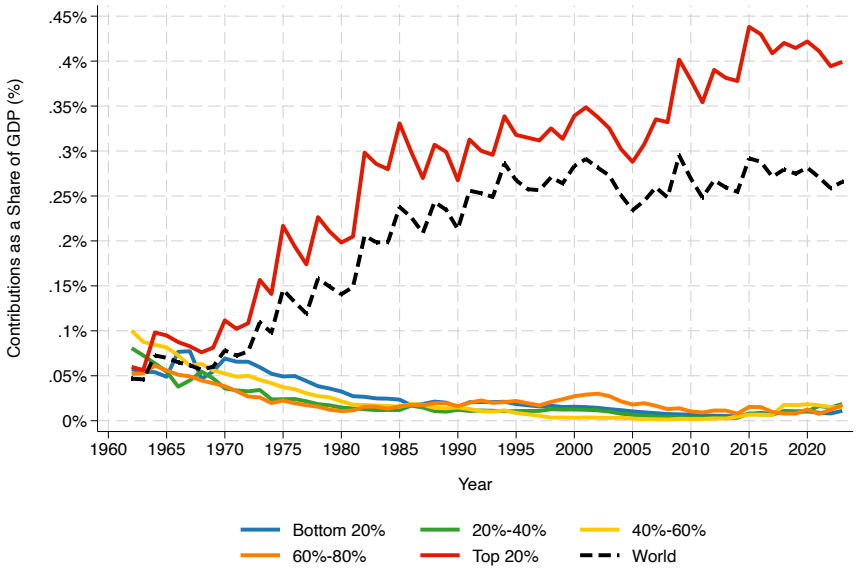
Cost per 1% of voting power, expressed as a share of GDP, plotted across the global income distribution. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.34: IBRD Paid-In Capital Stock as a Share of GDP (%) by Income Quintiles



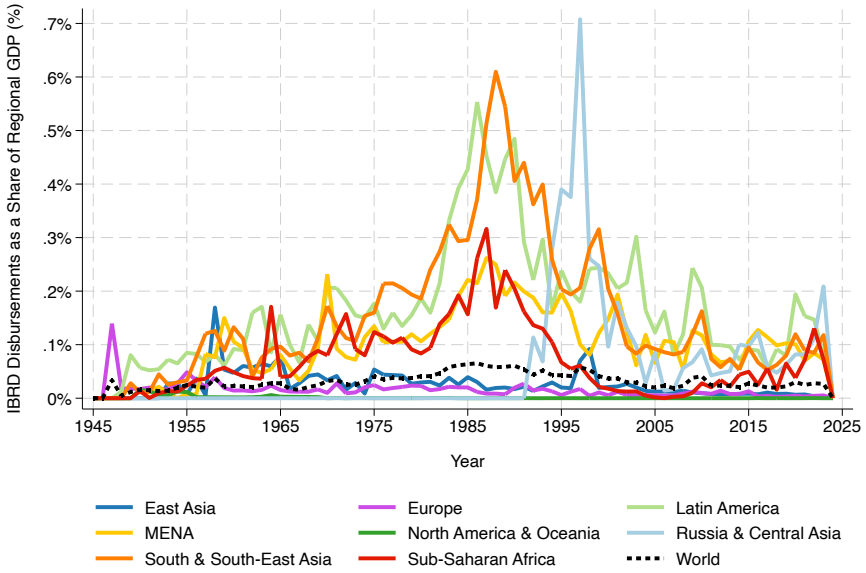
Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.35: Cumulative Contributions to the IDA as a Share of GDP (%) by Income Quintiles



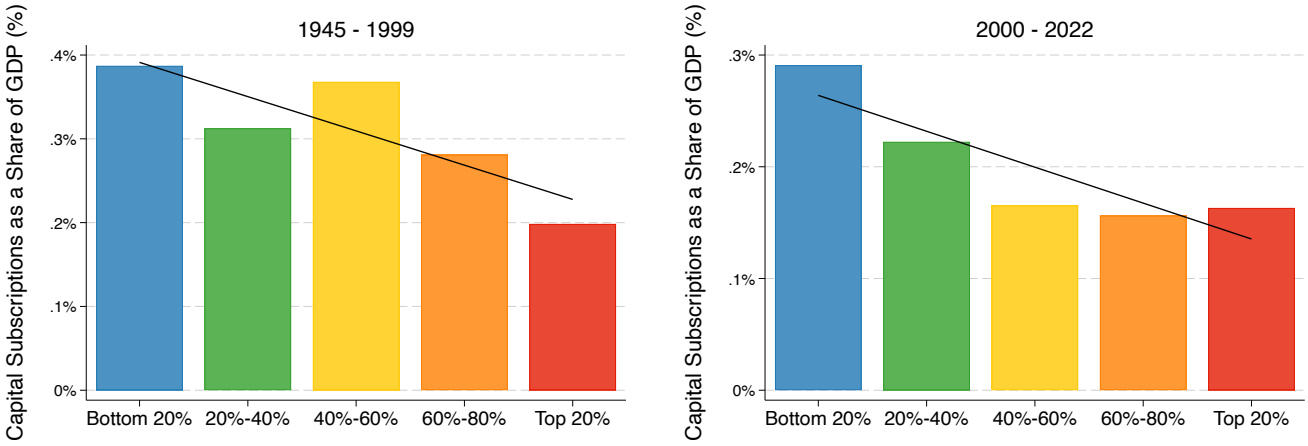
Cumulative IDA contributions as a share of GDP for each income quintile over time. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.36: Cumulative Contributions to the IDA as a Share of GDP (%) by Regions



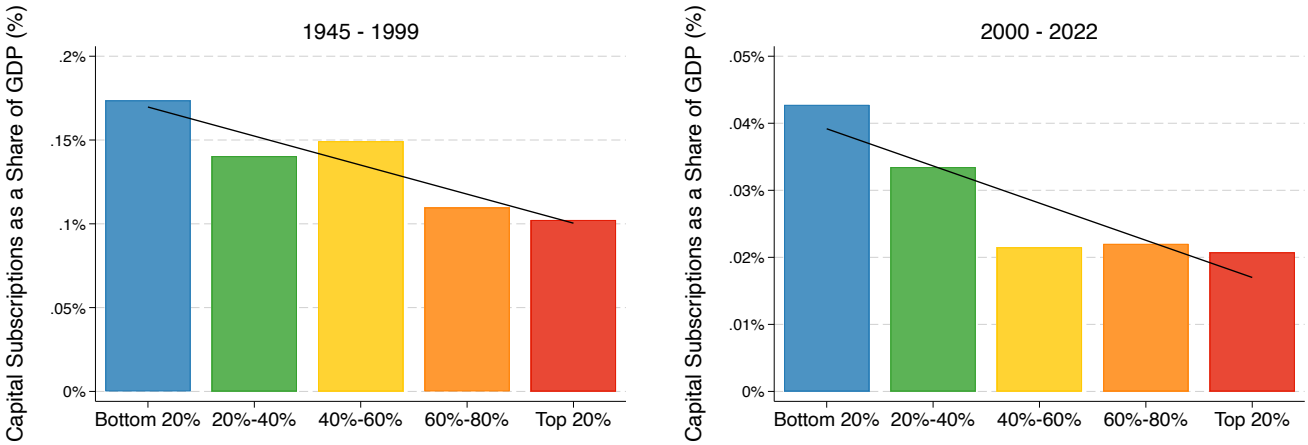
Cumulative contributions to the IDA as a share of national GDP, aggregated by world region over time. Each line represents a major world region. Data on IDA contributions from World Bank annual reports; GDP from the World Inequality Database.

Figure A.37: Average IMF Paid-In Capital as a Share of GDP (%) by Income Quintiles



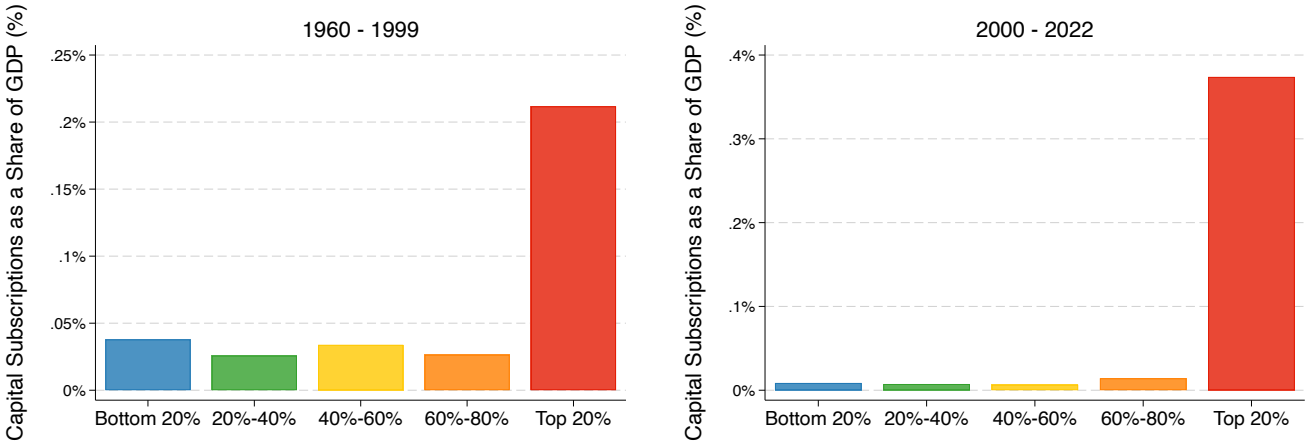
Average IMF paid-in capital as a share of GDP for each income quintile, shown separately for two periods. Left panel: 1945–1999; right panel: 2002–2022. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.38: Average IBRD Paid-In Capital as a Share of GDP (%) by Income Quintiles



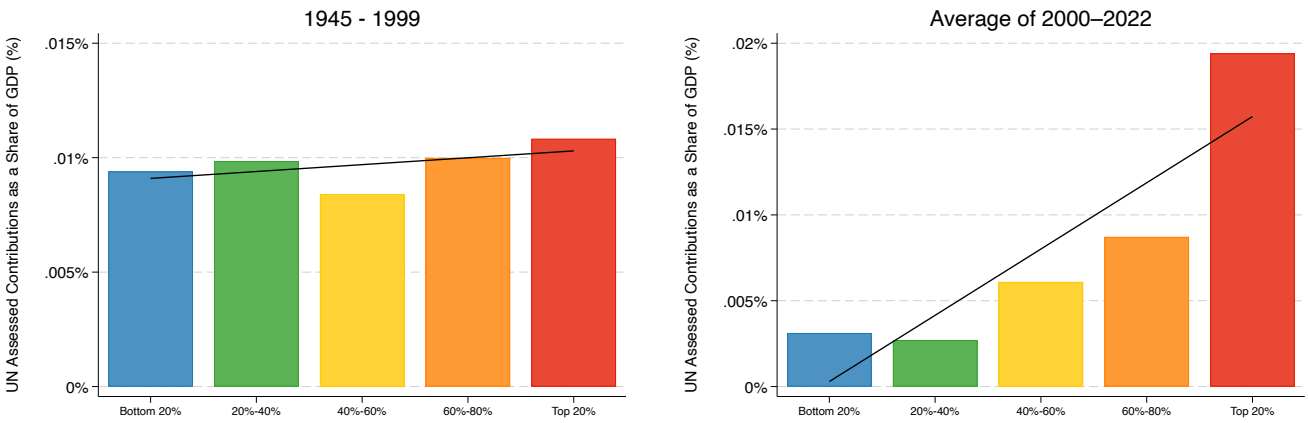
Average IBRD paid-in capital as a share of GDP for each income quintile, shown separately for two periods. Left panel: 1945–1999; right panel: 2002–2022. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.39: Average IDA Paid-In Capital as a Share of GDP (%) by Income Quintiles



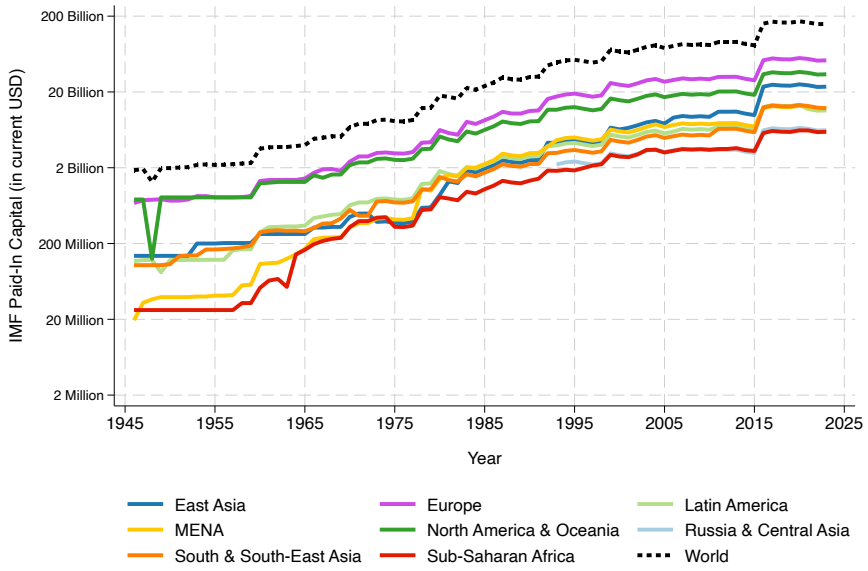
Average IDA paid-in capital as a share of GDP for each income quintile, shown separately for two periods. Left panel: 1945–1999; right panel: 2002–2022. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.40: Average UN System Contributions as a Share of GDP (%) by Income Quintiles



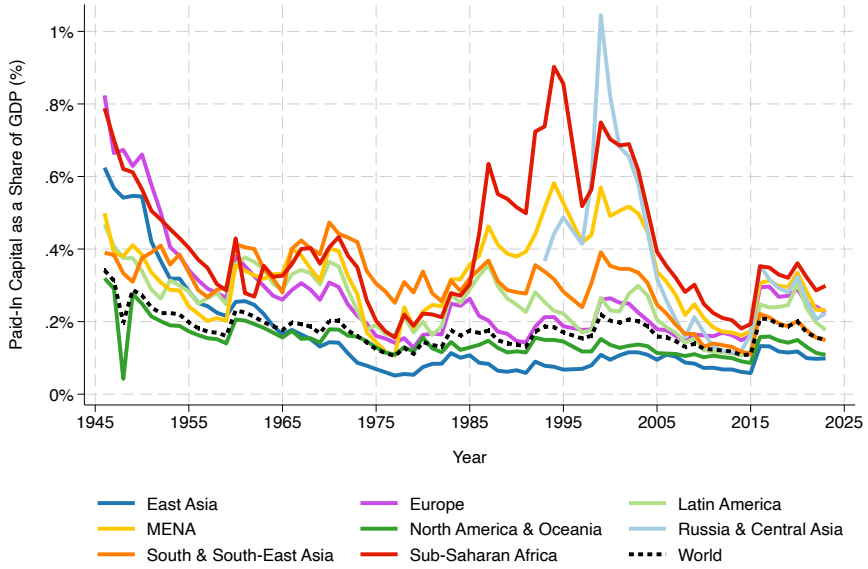
Average assessed UN system contributions as a share of GDP for each income quintile, shown separately for two periods. Left panel: 1945–1999; right panel: 2000–2022. Countries grouped according to GDP per capita quintiles, weighted by population. E.g. top 20% countries include exactly the top 20% of the world population (1,6 billion out of 8 billion in 2024) living in the countries with highest per capita income. In 2024: main top 20% countries include Australia, Canada, Finland, France, Germany, Japan, Switzerland, the U.S. and the U.K. Main 60%-80% countries include China, Russia and Turkey. Main 40%-60% countries include Algeria, Bolivia, Brazil, Iran, Turkmenistan, Ukraine, Venezuela and Vietnam. Main 20%-40% countries include Bangladesh, India, Kenya and Nigeria. Main bottom 20% countries include Afghanistan, Cameroon, Congo, Myanmar, South Sudan and Zimbabwe.

Figure A.41: IMF Paid-In-Capital Stock by Regions in nominal USD (log)



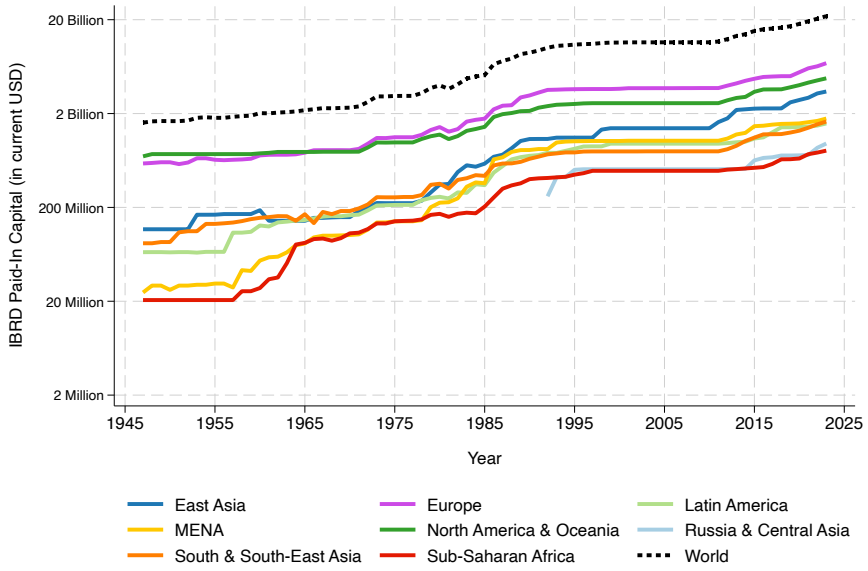
IMF paid-in capital stock by world region in nominal US dollars (log scale) over time. Each line represents a major world region. Data from IMF annual reports.

Figure A.42: IMF Paid-In-Capital Stock by Regions as a Share of GDP (%)



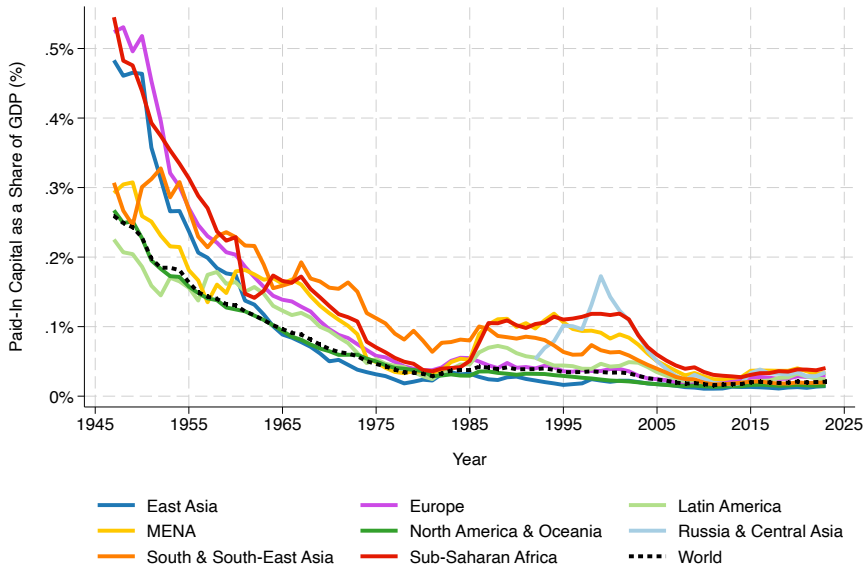
IMF paid-in capital stock by world region as a share of regional GDP over time. Each line represents a major world region. A higher value indicates a larger burden of IMF financing relative to regional economic capacity. Data from IMF annual reports; GDP from the World Inequality Database.

Figure A.43: IBRD Paid-In-Capital Stock by Regions in nominal USD (log)



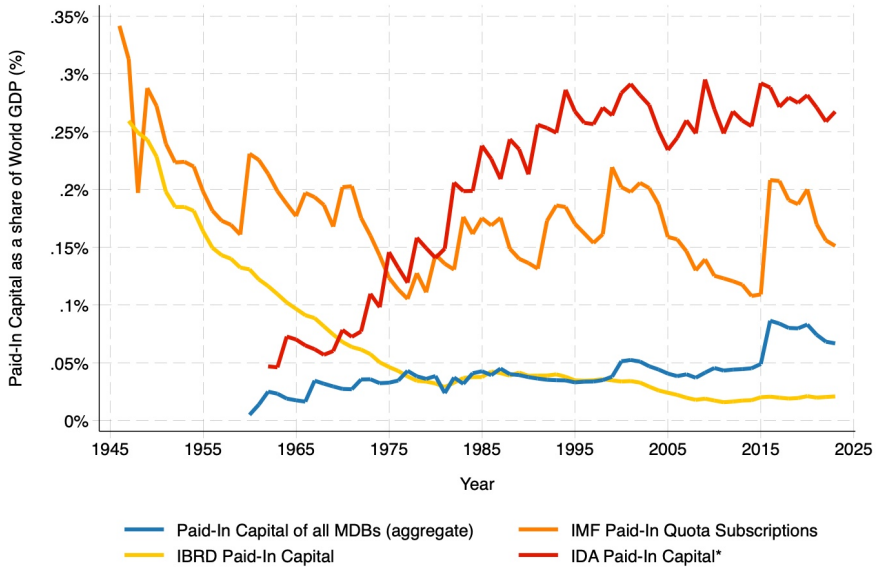
IBRD paid-in capital stock by world region in nominal US dollars (log scale) over time. Each line represents a major world region. Data from World Bank annual reports.

Figure A.44: IBRD Paid-In-Capital Stock by Regions as a Share of GDP (%)



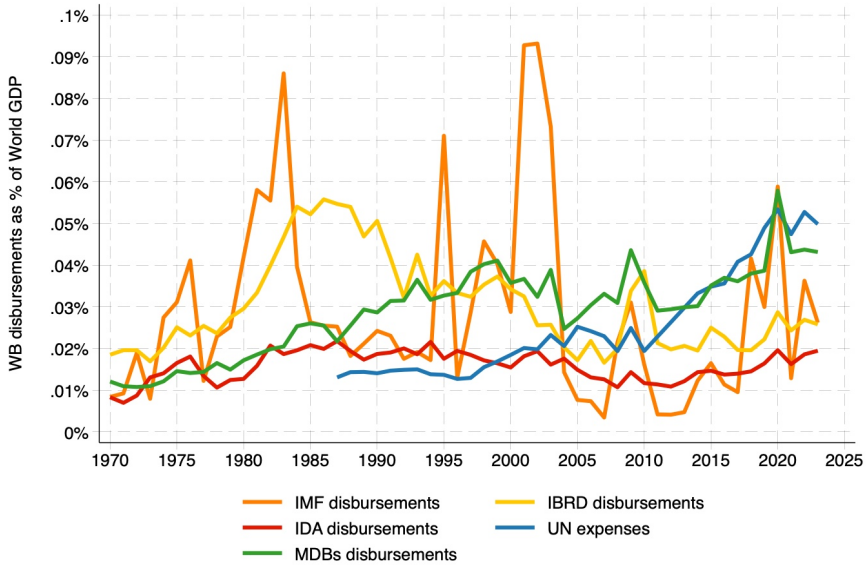
IBRD paid-in capital stock by world region as a share of regional GDP over time. Each line represents a major world region. A higher value indicates a larger burden of IBRD financing relative to regional economic capacity. Data from World Bank annual reports; GDP from the World Inequality Database.

Figure A.45: Paid-In-Capital Stock: MDBs World Bank and IMF (% of World GDP)



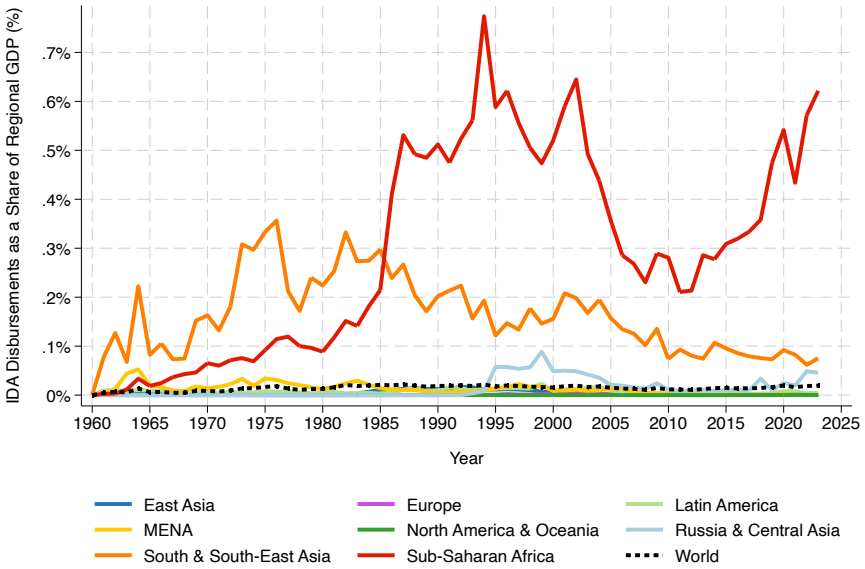
*For the IDA, all subscribed capital is fully paid-in - there is no callable portion, unlike in other MDBs. However, approximately 10% of these subscribed amounts are pledged but not yet disbursed. Using data on total subscriptions, paid-in capital is therefore approximated as 90% of the subscribed amount.

Figure A.46: Share of annual developmental expenses as % of World GDP



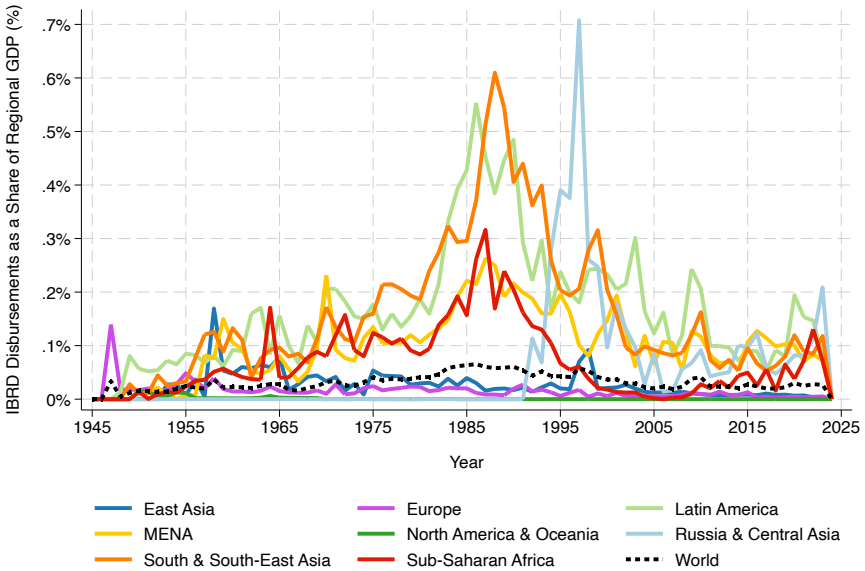
Annual developmental expenses (loans and grants) as a share of world GDP by institution over time. Each line corresponds to a different institution (IBRD, IDA, IMF). Loan data from World Bank International Debt Statistics (post-1970); GDP from the World Inequality Database.

Figure A.47: IDA Expenditure to Regions as a Share of GDP (%)



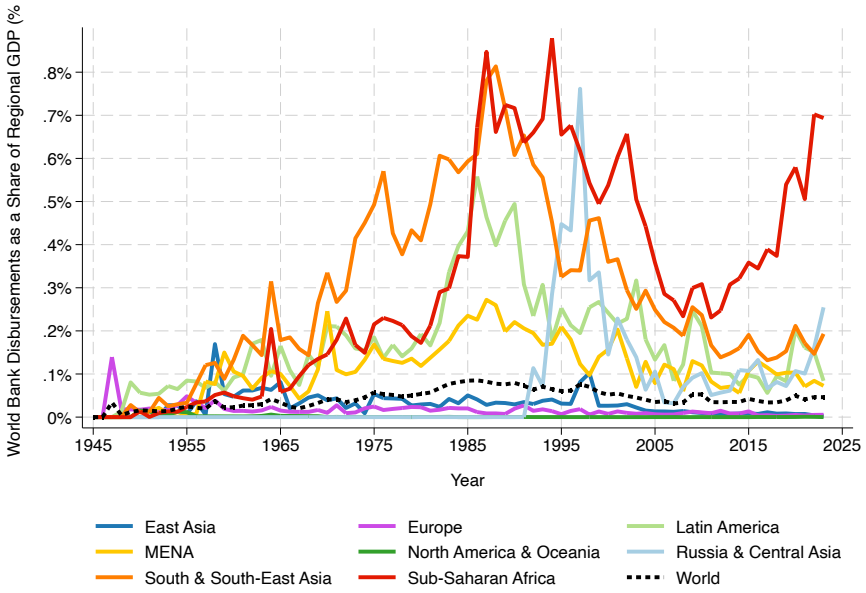
IDA expenditure (disbursements) to recipient regions as a share of regional GDP over time. Each line represents a major world region. Loan data from World Bank International Debt Statistics (post-1970); GDP from the World Inequality Database.

Figure A.48: IBRD Expenditure to Regions as a Share of GDP (%)



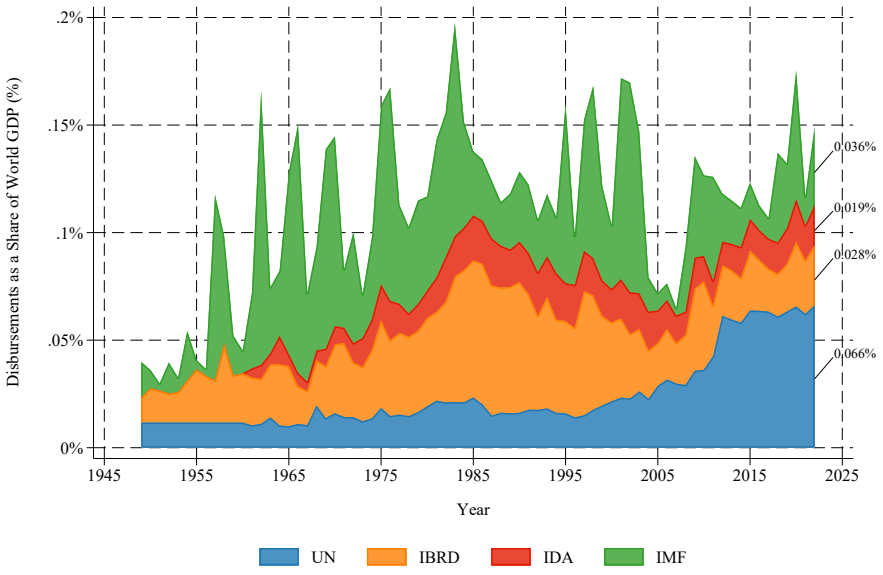
IBRD expenditure (disbursements) to recipient regions as a share of regional GDP over time. Each line represents a major world region. Loan data from World Bank International Debt Statistics (post-1970); GDP from the World Inequality Database.

Figure A.49: Total World Bank (IBRD & IDA) Expenditure to Regions as a Share of GDP (%)



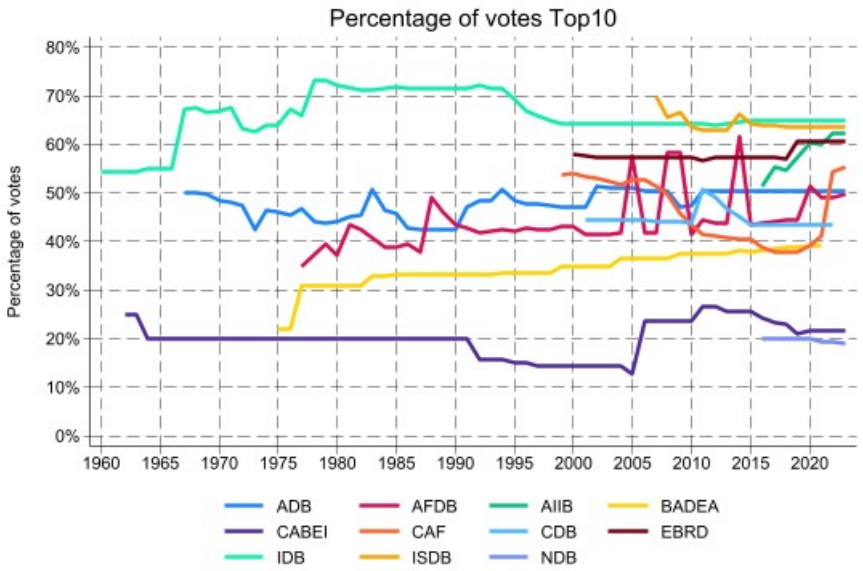
Total World Bank (IBRD and IDA combined) expenditure (disbursements) to recipient regions as a share of regional GDP over time. Each line represents a major world region. Loan data from World Bank International Debt Statistics (post-1970); GDP from the World Inequality Database.

Figure A.50: Total Disbursements by Institution (% of World GDP)



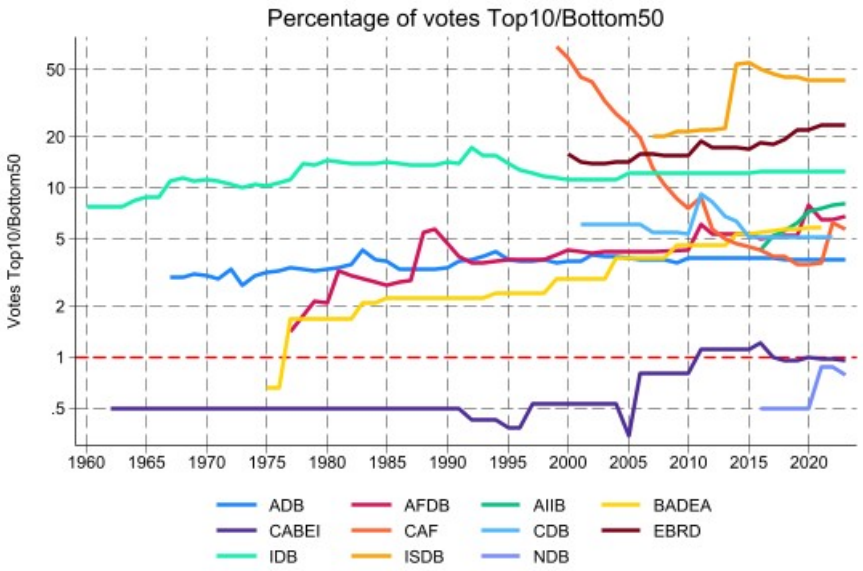
Total disbursements by institution (IBRD, IDA, IMF, UN system) expressed as a share of world GDP over time. Each line corresponds to a different institution. Includes both disbursements to developing and advanced economies. Loan data from World Bank International Debt Statistics (post-1970); GDP from the World Inequality Database.

Figure A.51: Percentage of Votes Held by the Top Decile of Members (MDBs)



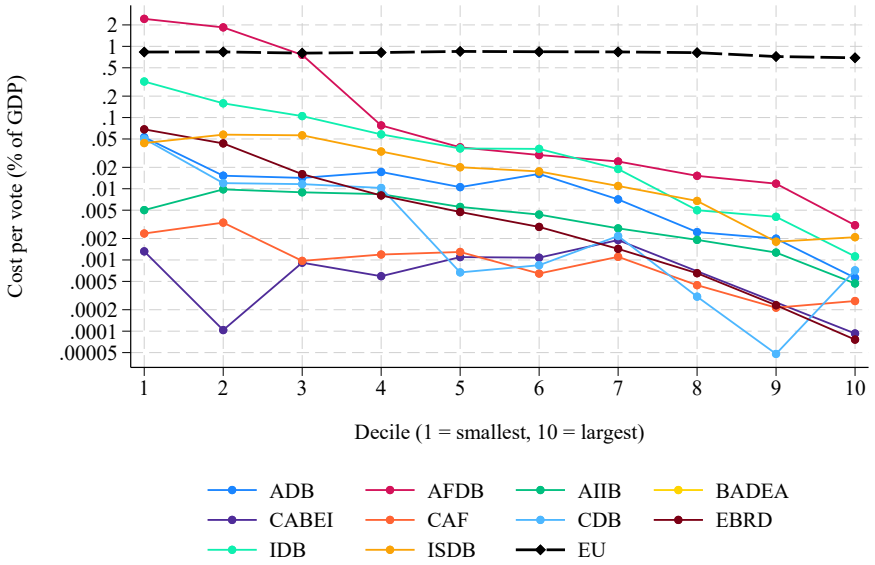
Share of total voting power held by the top decile of countries (by vote share) in each MDB over time. Each line corresponds to a different MDB. A higher value indicates greater concentration of institutional control among a small group of shareholders. Data from the annual reports of each MDB.

Figure A.52: Ratio of Votes Held by the Top Decile to the Bottom Half of Members (MDBs)



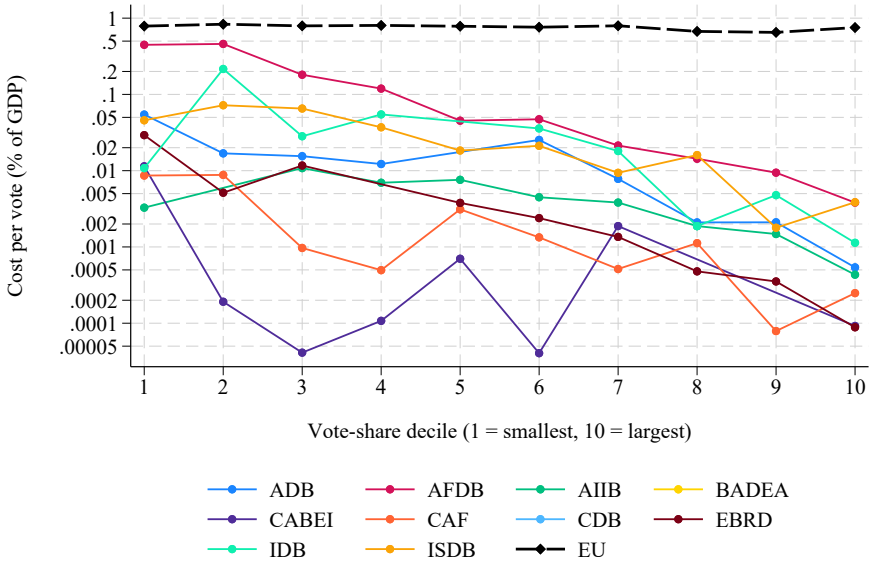
Ratio of the combined voting power of the top decile of countries to that of the bottom half of countries in each MDB over time. Each line corresponds to a different MDB. A higher ratio indicates greater voting concentration: when the ratio exceeds one, the top decile holds more voting power than the bottom half combined. Data from the annual reports of each MDB.

Figure A.53: Cost per Vote as % of GDP by MDB (All Years)



Cost per 1% of voting power as a share of GDP, plotted by vote-share decile (1 = smallest, 10 = largest). Each line corresponds to a single MDB; the EU line (dashed) uses financial contributions and GDP per capita deciles instead. Averages computed across all available years. A declining curve indicates that larger shareholders acquire voting power at lower relative cost. Data from the annual reports of each MDB; GDP from the World Inequality Database.

Figure A.54: Cost per Vote as % of GDP Decreases with Voting Power (2023)



Cost per 1% of voting power as a share of GDP, plotted by vote-share decile (1 = smallest, 10 = largest) for 2023. Each line corresponds to a single MDB. A declining curve indicates that larger shareholders acquire voting power at lower relative cost. Data from the annual reports of each MDB; GDP from the World Inequality Database.

Table A.3: World Bank (IBRD + IDA): Allocation to Developing Countries

Period	Total Aid % world GDP	Aid % received by G7 allies	% G7 allies receivers over total potential receivers		
			Population	GDP	Countries
	WB (IBRD + IDA)				
1945–1969	0.01%	61%	17%	27%	14%
1970–1994	0.05%	48%	18%	41%	24%
1995–2009	0.04%	46%	20%	46%	29%
2010–2023	0.04%	64%	54%	44%	46%

World Bank (IBRD + IDA) allocation to developing countries by period. Total Aid as % of world GDP measures the aggregate scale of disbursements. "Aid % received by G7 allies" is the share of total developing-country disbursements going to countries with a defense alliance or FTA with at least one G7 member. The remaining columns show the share of population, GDP, and number of countries among G7-allied recipients relative to all developing countries. Loan data from World Bank International Debt Statistics (post-1970); alliance and FTA data from the ICAD database.

Table A.4: Robustness: Funds Received from IBRD in US$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	0.588***	0.531**	0.590***	0.712***	0.598***	0.492**	0.565**	0.511**	0.488*
	(0.210)	(0.212)	(0.211)	(0.205)	(0.208)	(0.233)	(0.229)	(0.233)	(0.278)
FTA w/G7	0.679***	0.655***	0.638***	0.689***	0.690***	0.506***	0.606***	0.492***	0.410***
	(0.181)	(0.195)	(0.175)	(0.149)	(0.155)	(0.177)	(0.171)	(0.157)	(0.153)
BIT w/G7	0.199	0.262	0.0983	0.223	0.116	0.503	0.0834	0.378*	0.281
	(0.217)	(0.219)	(0.209)	(0.218)	(0.204)	(0.427)	(0.204)	(0.214)	(0.210)
lnDist w/G7		0.0911							
		(0.182)							
Colony G7		-0.370							
		(0.262)							
lnODA G7			0.116						
			(0.138)						
Defense alliance w/BRICS				-0.188					
				(0.171)					
FTA w/BRICS				0.286					
				(0.187)					
BIT w/BRICS				-0.00566					
				(0.162)					
lnTrade w/G7					0.000722				
					(0.203)				
lnTrade w/BRICS					0.131				
					(0.0848)				
lnTotal Trade					-0.0679				
					(0.301)				
lnFDI from/G7						0.191			
						(0.150)			
lnFDI from/BRICS						-0.0476			
						(0.0360)			
lnTotal FDI						0.166			
						(0.144)			
lnFDI from/US							0.105		
							(0.0698)		
Democracy								0.0124	-0.0103
								(0.0132)	(0.0134)
Ideology								-0.000211	-0.000269
								(0.000493)	(0.000448)
Observations	6,586	6,207	6,142	6,586	5,195	1,572	2,825	4,173	4,173
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country *i* in parentheses. All regressions include year fixed effects. Defence alliance w/G7 (BRICS) equals 1 if country *i* has a formal defence alliance with any of the G7 (BRICS) countries, as reported by the Correlates of War project. FTA w/G7 (BRICS) equals 1 if country *i* has a Free Trade Agreement with any of the G7 (BRICS) countries, as reported by the Gravity dataset. BIT w/G7 (BRICS) equals 1 if country *i* has a Bilateral Investment Treaty with any of the G7 (BRICS) countries, as reported by the EDIT database. GDP refers to including natural log of GDP, POP refers to including natural log of Population, Democracy refers to including the democracy/autocracy score as reported in the Polity V database, Ideology refers to the executive's party orientation with respect to economic policy as reported by DPI2020, Institutional controls refer to i) Voice and Accountability, ii) Political Stability, iii) Government Effectiveness, iv) Regulatory Quality, v) Rule of Law and vi) Control of corruption scores as reported by the Worldwide Governance Indicators. For Alliance, FTA or BIT dummies whenever missing we replace them by 0, assuming there is no formal agreement in place. For political controls, whenever missing we replace them by value -99. Observation counts might differ among columns based on the limited availability of data for the variables included. *** p<0.01, ** p<0.05, * p<0.1.

Table A.5: Robustness: Funds Received from IDA in US$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	-0.226	-0.306	-0.264	0.115	-0.345	-0.0597	-0.293	-0.259	-0.144
	(0.490)	(0.378)	(0.476)	(0.494)	(0.469)	(0.545)	(0.503)	(0.501)	(0.455)
FTA w/G7	-0.534	-0.546*	-0.544	-0.739**	-0.626**	-0.367	-0.587	-0.497	-0.516
	(0.345)	(0.331)	(0.348)	(0.298)	(0.286)	(0.442)	(0.416)	(0.399)	(0.396)
BIT w/G7	0.392*	0.588**	0.177	0.316	0.274	0.669**	0.216	0.499**	0.529**
	(0.213)	(0.237)	(0.176)	(0.217)	(0.179)	(0.318)	(0.175)	(0.230)	(0.250)
lnDist w/G7		0.425**							
		(0.194)							
Colony G7		0.587***							
		(0.223)							
lnODA G7			0.372***						
			(0.0838)						
Defense alliance w/BRICS				-0.574*					
				(0.311)					
FTA w/BRICS				0.376*					
				(0.227)					
BIT w/BRICS				0.437**					
				(0.212)					
lnTrade w/G7					0.462***				
					(0.163)				
lnTrade w/BRICS					0.239**				
					(0.120)				
lnTotal Trade					-0.743***				
					(0.206)				
lnFDI from/G7						0.127			
						(0.0857)			
lnFDI from/BRICS						0.0243			
						(0.0500)			
lnTotal FDI						-0.149			
						(0.105)			
lnFDI from/US							-0.0185		
							(0.0504)		
Democracy								0.0253	0.0313*
								(0.0215)	(0.0178)
Ideology								0.000845*	0.000529
								(0.000469)	(0.000522)
Observations	6,280	5,873	6,233	6,280	5,105	1,605	2,903	4,242	4,242
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.6: Robustness: Funds Received from WB in US$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	0.506***	0.470***	0.714***	0.620***	0.426***	0.531***	0.493***	0.429***	0.434***
	(0.146)	(0.136)	(0.136)	(0.185)	(0.133)	(0.177)	(0.152)	(0.141)	(0.148)
FTA w/G7	0.272*	0.315**	0.356***	0.224*	0.310**	0.212	0.230	0.214*	0.194
	(0.148)	(0.149)	(0.129)	(0.128)	(0.136)	(0.157)	(0.147)	(0.126)	(0.124)
BIT w/G7	0.162	0.204	0.0933	0.157	0.120	0.686**	0.0116	0.220	0.199
	(0.143)	(0.155)	(0.146)	(0.145)	(0.132)	(0.301)	(0.141)	(0.163)	(0.160)
lnDist w/G7		0.161							
		(0.145)							
Colony G7		-0.0603							
		(0.125)							
lnODA G7			0.143						
			(0.0876)						
Defense alliance w/BRICS				-0.233					
				(0.157)					
FTA w/BRICS				0.0874					
				(0.139)					
BIT w/BRICS				0.0838					
				(0.110)					
lnTrade w/G7					0.145				
					(0.102)				
lnTrade w/BRICS					0.131*				
					(0.0698)				
lnTotal Trade					-0.479***				
					(0.146)				
lnFDI from/G7						0.107			
						(0.0690)			
lnFDI from/BRICS						0.00879			
						(0.0323)			
lnTotal FDI						-0.0667			
						(0.0828)			
lnFDI from/US							0.0157		
							(0.0382)		
Democracy								0.0178*	0.0122
								(0.0108)	(0.0100)
Ideology								8.14e-05	2.47e-05
								(0.000319)	(0.000325)
Observations	6,780	6,370	6,330	6,780	5,322	1,617	2,905	4,255	4,255
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.7: Robustness: Funds Received from IMF in US$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	1.019***	0.954***	1.056***	1.189**	1.111***	1.117**	1.048**	0.841**	0.736*
	(0.356)	(0.253)	(0.395)	(0.499)	(0.305)	(0.497)	(0.411)	(0.383)	(0.434)
FTA w/G7	-0.250	0.00461	-0.227	-0.202	0.103	-0.413	-0.380	-0.131	-0.141
	(0.546)	(0.405)	(0.460)	(0.469)	(0.411)	(0.662)	(0.581)	(0.449)	(0.444)
BIT w/G7	0.198	0.157	0.175	0.149	0.208	2.241***	-0.0905	0.0695	0.0480
	(0.324)	(0.337)	(0.357)	(0.364)	(0.388)	(0.618)	(0.380)	(0.389)	(0.374)
lnDist w/G7		0.0355							
		(0.367)							
Colony G7		-0.329							
		(0.237)							
lnODA G7			-0.0564						
			(0.298)						
Defense alliance w/BRICS				-0.119					
				(0.385)					
FTA w/BRICS				0.448					
				(0.405)					
BIT w/BRICS				0.261					
				(0.345)					
lnTrade w/G7					-0.429***				
					(0.156)				
lnTrade w/BRICS					0.176				
					(0.113)				
lnTotal Trade					-0.0960				
					(0.384)				
lnFDI from/G7						-0.146			
						(0.138)			
lnFDI from/BRICS						-0.0730			
						(0.0773)			
lnTotal FDI						0.217			
						(0.137)			
lnFDI from/US							-0.107		
							(0.0750)		
Democracy								0.0434	0.0219
								(0.0268)	(0.0214)
Ideology								-0.000438	-0.000281
								(0.000480)	(0.000520)
Observations	6,751	6,329	6,302	6,751	5,324	1,618	2,884	4,265	4,265
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.8: Robustness: Funds Received from UN in US$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Defense alliance w/SecCouncil	0.00211	-0.0743	-0.0317	-0.173	-0.0635	0.0604	-0.185	-0.205
	(0.283)	(0.268)	(0.127)	(0.249)	(0.301)	(0.276)	(0.226)	(0.171)
FTA w/SecCouncil	-0.326	-0.484**	-0.229	-0.235	-0.235	-0.292	-0.301	-0.316*
	(0.210)	(0.219)	(0.154)	(0.213)	(0.218)	(0.199)	(0.204)	(0.168)
BIT w/SecCouncil	-0.111	-0.123	-0.147	0.104	-0.275	-0.285	0.0605	0.0730
	(0.256)	(0.223)	(0.140)	(0.260)	(0.299)	(0.331)	(0.180)	(0.147)
lnDist w/SecCouncil		-0.256						
		(0.196)						
Colony SecCouncil		0.196						
		(0.179)						
lnODA G7			0.649***					
			(0.0646)					
lnTrade w/G7				-0.211*				
				(0.109)				
lnTrade w/BRICS				-0.114				
				(0.0912)				
lnTotal Trade				0.129				
				(0.202)				
lnFDI from/G7					0.0676			
					(0.0667)			
lnFDI from/BRICS					-0.00360			
					(0.0372)			
lnTotal FDI					-0.202**			
					(0.0834)			
lnFDI from/US						-0.0785**		
						(0.0352)		
Democracy							-0.00750	-0.0303*
							(0.0166)	(0.0157)
Ideology							-0.000620***	-0.000196
							(0.000240)	(0.000177)
Observations	6,869	6,434	6,677	5,252	1,625	2,925	4,361	4,361
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.9: Funds Received from IBRD in US$ (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	0.653**	0.595**	0.595**	0.598*	0.583		-1.253*	0.0279	-0.0267
	(0.302)	(0.290)	(0.288)	(0.323)	(0.404)		(0.731)	(0.658)	(0.678)
FTA w/G7	0.280*	0.125	0.266*	0.325*	0.253	0.313	0.344**	0.0488	0.0745
	(0.157)	(0.136)	(0.154)	(0.183)	(0.162)	(0.207)	(0.165)	(0.147)	(0.153)
BIT w/G7	0.0224	0.123	-0.0393	0.0373	-0.0190	0.309	-0.0889	0.188	0.195
	(0.175)	(0.177)	(0.165)	(0.175)	(0.164)	(0.286)	(0.172)	(0.162)	(0.174)
lnODA G7			0.0518						
			(0.142)						
Defense alliance w/BRICS				0.250					
				(0.188)					
FTA w/BRICS				-0.0499					
				(0.199)					
BIT w/BRICS				-0.148					
				(0.132)					
lnTrade w/G7					-0.0427				
					(0.217)				
lnTrade w/BRICS					-0.107				
					(0.0674)				
lnTotal Trade					0.176				
					(0.209)				
lnFDI from/BRICS						0.424***			
						(0.140)			
lnTotal FDI						-0.0161			
						(0.0419)			
lnFDI from/US						-0.196			
						(0.182)			
Democracy							-0.00147		
							(0.0756)		
Ideology								-0.0111	-0.00401
								(0.0133)	(0.0125)
Observations	5,343	5,076	4,904	5,343	4,269	916	2,326	3,093	3,093
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.10: Funds Received from IDA in US$ (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	0.752**	0.806**	0.151	1.164***	1.093**		0.436	1.205**	1.205**
	(0.314)	(0.345)	(0.282)	(0.319)	(0.433)		(0.369)	(0.477)	(0.479)
FTA w/G7	-0.262	-0.163	-0.186	-0.273	-0.249	-0.200	-0.250	-0.0296	-0.0314
	(0.310)	(0.307)	(0.297)	(0.257)	(0.285)	(0.152)	(0.304)	(0.317)	(0.314)
BIT w/G7	0.374**	0.272	0.288**	0.375**	0.409**	0.436***	0.277***	0.264	0.288
	(0.163)	(0.194)	(0.130)	(0.150)	(0.162)	(0.123)	(0.104)	(0.242)	(0.206)
lnODA G7			0.439***						
			(0.0646)						
Defense alliance w/BRICS				-0.740**					
				(0.322)					
FTA w/BRICS				0.234					
				(0.225)					
BIT w/BRICS				-0.0675					
				(0.131)					
lnTrade w/G7					0.205				
					(0.168)				
lnTrade w/BRICS					-0.0703				
					(0.0604)				
lnTotal Trade					-0.191				
					(0.244)				
lnFDI from/BRICS						0.0388			
						(0.0394)			
lnTotal FDI						-0.00791			
						(0.0205)			
lnFDI from/US						0.0159			
						(0.0687)			
Democracy							-0.0486		
							(0.0348)		
Ideology								0.000791	0.00109
								(0.0137)	(0.0151)
Observations	5,474	5,083	5,459	5,474	4,338	1,064	2,076	3,475	3,475
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.11: Funds Received from WB in US$ (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	0.736***	0.682***	0.543**	0.765***	0.648**		-0.161	0.445	0.429
	(0.223)	(0.216)	(0.216)	(0.210)	(0.275)		(0.217)	(0.374)	(0.364)
FTA w/G7	0.0840	0.00263	0.0837	0.0632	0.0800	0.113	0.138	-0.0412	-0.0239
	(0.148)	(0.124)	(0.144)	(0.144)	(0.142)	(0.142)	(0.135)	(0.130)	(0.135)
BIT w/G7	0.0937	0.131	0.0273	0.108	0.0864	0.417**	-0.0157	0.174	0.206
	(0.125)	(0.138)	(0.122)	(0.118)	(0.106)	(0.179)	(0.117)	(0.144)	(0.138)
lnODA G7			0.210**						
			(0.101)						
Defense alliance w/BRICS				-0.134					
				(0.109)					
FTA w/BRICS				0.0674					
				(0.127)					
BIT w/BRICS				-0.0989					
				(0.104)					
lnTrade w/G7					-0.0276				
					(0.147)				
lnTrade w/BRICS					-0.0950				
					(0.0614)				
lnTotal Trade					0.0893				
					(0.166)				
lnFDI from/BRICS						0.151**			
						(0.0645)			
lnTotal FDI						-0.0152			
						(0.0243)			
lnFDI from/US						-0.0573			
						(0.0980)			
Democracy							-0.0378		
							(0.0418)		
Ideology								-0.00431	-0.00177
								(0.00836)	(0.00878)
Observations	6,780	6,370	6,330	6,780	5,319	1,522	2,886	4,212	4,212
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.12: Funds Received from IMF in US$ (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Defense alliance w/G7	0.393	0.384	0.655	0.0775	0.121		-0.530	-0.880	-1.156
	(0.561)	(0.560)	(0.753)	(0.591)	(0.572)		(0.560)	(0.892)	(0.819)
FTA w/G7	-0.208	-0.107	-0.210	-0.198	-0.237	0.314	-0.320	-0.677*	-0.790*
	(0.506)	(0.435)	(0.496)	(0.515)	(0.476)	(0.782)	(0.621)	(0.378)	(0.466)
BIT w/G7	-0.0117	0.0491	-0.119	-0.00371	0.0396	2.984**	-0.556	-0.107	-0.120
	(0.587)	(0.616)	(0.588)	(0.571)	(0.638)	(1.436)	(0.674)	(0.675)	(0.601)
lnODA G7			-0.0993						
			(0.186)						
Defense alliance w/BRICS				0.772*					
				(0.416)					
FTA w/BRICS				0.000640					
				(0.415)					
BIT w/BRICS				-0.608					
				(0.382)					
lnTrade w/G7					0.309				
					(0.324)				
lnTrade w/BRICS					-0.290**				
					(0.124)				
lnTotal Trade					-0.699				
					(0.518)				
lnFDI from/BRICS						0.317			
						(0.337)			
lnTotal FDI						-0.0832			
						(0.0790)			
lnFDI from/US						-0.452			
						(0.345)			
Democracy							-0.218		
							(0.162)		
Ideology								0.0306	0.0363
								(0.0278)	(0.0302)
Observations	6,568	6,207	6,119	6,568	5,200	1,056	2,677	3,891	3,891
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.13: Funds Received from UN in US$ (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Defense alliance w/SecCouncil	0.343	-0.303	-0.330		-0.379	0.127	0.116
	(0.369)	(0.233)	(0.223)		(0.335)	(0.228)	(0.177)
FTA w/SecCouncil	-0.210*	-0.106	-0.173	0.186*	-0.263	-0.0542	-0.0145
	(0.124)	(0.0910)	(0.116)	(0.102)	(0.176)	(0.103)	(0.115)
BIT w/SecCouncil	0.0158	0.0495	0.120	0.0641	0.201	0.0352	0.0531
	(0.126)	(0.0970)	(0.139)	(0.111)	(0.138)	(0.111)	(0.101)
lnODA G7		0.410***					
		(0.0607)					
lnTrade w/G7			-0.00353				
			(0.125)				
lnTrade w/BRICS			-0.0996				
			(0.0666)				
lnTotal Trade			0.00504				
			(0.207)				
lnFDI from/BRICS				0.0101			
				(0.0217)			
lnTotal FDI				0.00254			
				(0.0205)			
lnFDI from/US					-0.0301		
					(0.0400)		
Democracy						-0.117***	
						(0.0408)	
Ideology						-0.00320	-0.00602
						(0.0108)	(0.0102)
Observations	6,869	6,677	5,252	1,625	2,924	4,358	4,358
GDP and POP	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.14: Robustness: $ICAs_{5y}$/G7 and IBRD Disbursements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$ICAs_{5y}$/G7	0.0172***	0.0167***	0.0164***	0.0165***	0.0172***	0.0165*	0.0115**	0.0124***	0.0130***
	(0.00523)	(0.00560)	(0.00507)	(0.00554)	(0.00543)	(0.00910)	(0.00521)	(0.00437)	(0.00444)
lnDist w/G7		-0.0288							
		(0.201)							
Hegemony w/G7		-0.289							
		(0.327)							
lnODA G7			0.116						
			(0.0985)						
$ICAs_{5y}$/BRICS				0.00560					
				(0.0185)					
lnTrade w/G7					0.523**				
					(0.233)				
lnTrade w/BRICS					0.193*				
					(0.111)				
lnTotal Trade					-0.644*				
					(0.366)				
lnFDI from/G7						0.367**			
						(0.164)			
lnFDI from/BRICS						-0.0255			
						(0.0378)			
lnTotal FDI						-0.0485			
						(0.146)			
lnFDI from/US							0.192**		
							(0.0831)		
Democracy								0.0290**	-0.00495
								(0.0133)	(0.0156)
Ideology								-0.000101	-0.000236
								(0.000539)	(0.000491)
Observations	6,049	6,049	5,676	6,049	4,756	1,556	2,587	4,067	4,067
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. All regressions include year fixed effects. $ICAs_{5y}$/G7 is the five-year rolling stock of international cooperation agreements (ICAs) between country i and G7 members, measuring cumulative diplomatic alignment. Hegemony w/G7 equals 1 if the country was a former colony of a G7 member. Same control variable definitions as in Table A.4. *** p<0.01, ** p<0.05, * p<0.1.

Table A.15: Robustness: $ICAs_{5y}$/G7 and IDA Disbursements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$ICAs_{5y}$/G7	-0.0103	-0.00501	-0.0123	-0.00481	-0.00491	-0.0216	-0.0160*	-0.0103	-0.00758
	(0.00917)	(0.0113)	(0.00825)	(0.0102)	(0.00910)	(0.0185)	(0.00901)	(0.00972)	(0.00971)
lnDist w/G7		0.416**							
		(0.176)							
Hegemony w/G7		0.483**							
		(0.231)							
lnODA G7			0.404***						
			(0.0779)						
$ICAs_{5y}$/BRICS				-0.0299					
				(0.0270)					
lnTrade w/G7					0.381**				
					(0.193)				
lnTrade w/BRICS					0.219*				
					(0.112)				
lnTotal Trade					-0.744***				
					(0.211)				
lnFDI from/G7						0.129			
						(0.0844)			
lnFDI from/BRICS						0.0312			
						(0.0583)			
lnTotal FDI						-0.164			
						(0.100)			
lnFDI from/US							-0.0289		
							(0.0437)		
Democracy								0.0172	0.0229
								(0.0183)	(0.0156)
Ideology								0.000816*	0.000504
								(0.000468)	(0.000520)
Observations	5,778	5,778	5,738	5,778	4,655	1,584	2,655	4,118	4,118
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.14. *** p<0.01, ** p<0.05, * p<0.1.

Table A.16: Robustness: $ICAs_{5y}$/G7 and WB Disbursements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$ICAs_{5y}$/G7	0.0160***	0.0147***	0.0154***	0.0139***	0.0171***	0.0154**	0.0138***	0.0130***	0.0139***
	(0.00349)	(0.00391)	(0.00321)	(0.00429)	(0.00409)	(0.00637)	(0.00327)	(0.00340)	(0.00359)
lnDist w/G7		0.157							
		(0.173)							
Hegemony w/G7		-0.0231							
		(0.147)							
lnODA G7			0.205***						
			(0.0654)						
$ICAs_{5y}$/BRICS				0.0132					
				(0.0181)					
lnTrade w/G7					0.430***				
					(0.127)				
lnTrade w/BRICS					0.180**				
					(0.0809)				
lnTotal Trade					-0.835***				
					(0.190)				
lnFDI from/G7						0.189**			
						(0.0820)			
lnFDI from/BRICS						0.0119			
						(0.0361)			
lnTotal FDI						-0.157*			
						(0.0953)			
lnFDI from/US							0.0707		
							(0.0474)		
Democracy								0.0284**	0.0180
								(0.0120)	(0.0110)
Ideology								0.000132	0.000108
								(0.000344)	(0.000364)
Observations	6,207	6,207	5,832	6,207	4,860	1,596	2,656	4,130	4,130
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.14. *** p<0.01, ** p<0.05, * p<0.1.

Table A.17: Robustness: $ICAs_{5y}$/G7 and IMF Disbursements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$ICAs_{5y}$/G7	0.0303***	0.0274***	0.0299***	0.0218**	0.0314***	0.0276	0.0347***	0.0266***	0.0269***
	(0.00928)	(0.00900)	(0.00945)	(0.00929)	(0.00949)	(0.0362)	(0.0100)	(0.0101)	(0.00912)
lnDist w/G7		0.167							
		(0.428)							
Hegemony w/G7		-0.378							
		(0.272)							
lnODA G7			0.0204						
			(0.209)						
$ICAs_{5y}$/BRICS				0.0837**					
				(0.0349)					
lnTrade w/G7					0.0345				
					(0.265)				
lnTrade w/BRICS					0.316**				
					(0.147)				
lnTotal Trade					-0.721				
					(0.552)				
lnFDI from/G7						0.0126			
						(0.139)			
lnFDI from/BRICS						-0.0494			
						(0.117)			
lnTotal FDI						-0.00337			
						(0.196)			
lnFDI from/US							-0.0282		
							(0.0801)		
Democracy								0.0662**	0.0366
								(0.0259)	(0.0255)
Ideology								0.000534	0.000674
								(0.000594)	(0.000534)
Observations	6,144	6,144	5,793	6,144	4,840	1,590	2,635	4,133	4,133
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.14. *** p<0.01, ** p<0.05, * p<0.1.

Table A.18: Robustness: $ICAs_{5y}$/SecCouncil and UN Disbursements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$ICAs_{5y}$/SecCouncil	0.0125	0.0154	0.0147	0.00954	0.0216	0.0239	0.0150	0.0266**
	(0.0173)	(0.0171)	(0.0189)	(0.0157)	(0.0341)	(0.0166)	(0.0155)	(0.0127)
lnDist w/SecCouncil		-0.0500						
		(0.167)						
Hegemony w/SecCouncil		0.188						
		(0.206)						
lnODA G7			0.646***					
			(0.0607)					
lnTrade w/G7				-0.177				
				(0.128)				
lnTrade w/BRICS				-0.0284				
				(0.0902)				
lnTotal Trade				-0.0869				
				(0.225)				
lnFDI from/G7					0.0703			
					(0.0764)			
lnFDI from/BRICS					-0.00489			
					(0.0374)			
lnTotal FDI					-0.228**			
					(0.0887)			
lnFDI from/US						-0.0671*		
						(0.0351)		
Democracy							-0.0114	-0.0354**
							(0.0164)	(0.0139)
Ideology							-0.000611**	-0.000196
							(0.000244)	(0.000177)
Observations	6,302	6,302	6,150	4,786	1,597	2,673	4,218	4,218
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	NO	NO	NO	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. Same specification and variable definitions as in Table A.14. $ICAs_{5y}$/SecCouncil replaces $ICAs_{5y}$/G7. *** p<0.01, ** p<0.05, * p<0.1.

Table A.19: Robustness: $ICAs_{5y}$/G7 and IBRD Disbursements (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$ICAs_{5y}$/G7	0.0149***	0.0144***	0.0120***	0.0146***	0.0181***	0.0137***	0.0116***	0.0114***
	(0.00332)	(0.00369)	(0.00353)	(0.00312)	(0.00610)	(0.00288)	(0.00314)	(0.00347)
lnODA G7		-0.102						
		(0.121)						
$ICAs_{5y}$/BRICS			0.0337***					
			(0.0130)					
lnTrade w/G7				0.112				
				(0.214)				
lnTrade w/BRICS				-0.0171				
				(0.0408)				
lnTotal Trade				-0.0624				
				(0.257)				
lnFDI from/G7					0.417***			
					(0.130)			
lnFDI from/BRICS					-0.00996			
					(0.0428)			
lnTotal FDI					-0.180			
					(0.162)			
lnFDI from/US						0.0667		
						(0.0718)		
Democracy							-0.00805	-0.00354
							(0.0119)	(0.0105)
Ideology							0.000506	0.000255
							(0.000503)	(0.000509)
Observations	4,931	4,563	4,931	3,942	910	2,132	3,036	3,036
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. *** p<0.01, ** p<0.05, * p<0.1. Gravity controls (lnDist, Hegemony) omitted due to collinearity with country fixed effects.

Table A.20: Robustness: $ICAs_{5y}$/G7 and IDA Disbursements (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$ICAs_{5y}$/G7	0.0115	0.00574	0.00746	0.0117	0.0382*	0.00118	0.00909	0.00881
	(0.00960)	(0.00778)	(0.00879)	(0.00837)	(0.0210)	(0.00793)	(0.00850)	(0.00822)
lnODA G7		0.408***						
		(0.0471)						
$ICAs_{5y}$/BRICS			0.0324					
			(0.0227)					
lnTrade w/G7				0.316				
				(0.201)				
lnTrade w/BRICS				-0.0335				
				(0.0558)				
lnTotal Trade				-0.304				
				(0.269)				
lnFDI from/G7					0.0283			
					(0.0374)			
lnFDI from/BRICS					-0.00968			
					(0.0185)			
lnTotal FDI					-0.0187			
					(0.0638)			
lnFDI from/US						-0.0324		
						(0.0311)		
Democracy							-0.000981	-0.00152
							(0.0131)	(0.0147)
Ideology							-0.000240	-0.000254
							(0.000361)	(0.000371)
Observations	5,008	5,000	5,008	3,933	1,043	1,865	3,373	3,373
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. *** p<0.01, ** p<0.05, * p<0.1. Gravity controls (lnDist, Hegemony) omitted due to collinearity with country fixed effects.

Table A.21: Robustness: $ICAs_{5y}$/G7 and WB Disbursements (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$ICAs_{5y}$/G7	0.0127***	0.0122***	0.00984***	0.0126***	0.0173***	0.0110***	0.0101***	0.00968***
	(0.00306)	(0.00267)	(0.00312)	(0.00269)	(0.00559)	(0.00238)	(0.00288)	(0.00294)
lnODA G7		0.103						
		(0.0797)						
$ICAs_{5y}$/BRICS			0.0303***					
			(0.0116)					
lnTrade w/G7				0.159				
				(0.148)				
lnTrade w/BRICS				-0.00723				
				(0.0383)				
lnTotal Trade				-0.176				
				(0.194)				
lnFDI from/G7					0.141**			
					(0.0620)			
lnFDI from/BRICS					-0.00995			
					(0.0232)			
lnTotal FDI					-0.0703			
					(0.0904)			
lnFDI from/US						0.00566		
						(0.0379)		
Democracy							-0.00305	-0.00261
							(0.00764)	(0.00854)
Ideology							-0.000236	-0.000262
							(0.000328)	(0.000342)
Observations	6,207	5,832	6,207	4,860	1,501	2,638	4,089	4,089
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. *** p<0.01, ** p<0.05, * p<0.1. Gravity controls (lnDist, Hegemony) omitted due to collinearity with country fixed effects.

Table A.22: Robustness: $ICAs_{5y}$/G7 and IMF Disbursements (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$ICAs_{5y}$/G7	0.0371***	0.0379***	0.0354***	0.0431***	0.0799***	0.0478***	0.0352***	0.0391***
	(0.00984)	(0.0105)	(0.00909)	(0.00944)	(0.0270)	(0.0127)	(0.0107)	(0.0132)
lnODA G7		-0.0893						
		(0.220)						
$ICAs_{5y}$/BRICS			0.0208					
			(0.0245)					
lnTrade w/G7				0.633*				
				(0.376)				
lnTrade w/BRICS				-0.203				
				(0.130)				
lnTotal Trade				-1.247**				
				(0.622)				
lnFDI from/G7					0.334			
					(0.331)			
lnFDI from/BRICS					-0.0301			
					(0.0590)			
lnTotal FDI					-0.469			
					(0.344)			
lnFDI from/US						-0.192		
						(0.170)		
Democracy							0.0337	0.0318
							(0.0329)	(0.0310)
Ideology							0.000459	0.000684
							(0.000362)	(0.000449)
Observations	6,032	5,681	6,032	4,761	1,052	2,462	3,813	3,813
GDP and POP	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. *** p<0.01, ** p<0.05, * p<0.1. Gravity controls (lnDist, Hegemony) omitted due to collinearity with country fixed effects.

Table A.23: Robustness: $ICAs_{5y}$/SecCouncil and UN Disbursements (Country FE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$ICAs_{5y}$/SecCouncil	0.0257***	0.0171**	0.0259***	0.0235	0.0189**	0.0274***	0.0265***
	(0.00631)	(0.00702)	(0.00693)	(0.0197)	(0.00954)	(0.00552)	(0.00508)
lnODA G7		0.342***					
		(0.0546)					
lnTrade w/G7			0.0903				
			(0.132)				
lnTrade w/BRICS			-0.0206				
			(0.0391)				
lnTotal Trade			-0.180				
			(0.206)				
lnFDI from/G7				0.0109			
				(0.0217)			
lnFDI from/BRICS				0.00570			
				(0.0208)			
lnTotal FDI				-0.0313			
				(0.0421)			
lnFDI from/US					-0.0897**		
					(0.0358)		
Democracy						-0.00543	-0.00832
						(0.0110)	(0.0107)
Ideology						-0.000297	-0.000238
						(0.000214)	(0.000228)
Observations	6,302	6,150	4,786	1,597	2,672	4,218	4,218
GDP and POP	YES	YES	YES	YES	YES	YES	YES
Institutional controls	NO	NO	NO	NO	NO	NO	YES
Country FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered by country. *** p<0.01, ** p<0.05, * p<0.1. Gravity controls (lnDist, Hegemony) omitted due to collinearity with country fixed effects.

Table A.24: Cross-Sectional PPML: Binary Top-Quartile Alignment Indicator

	(1) IBRD	(2) IDA	(3) WB	(4) IMF	(5) UN	(6) All MDBs
Panel A: Year FE only						
Top-quartile aligned	0.941***	0.193	0.655***	0.689*	0.068	0.475***
	(0.147)	(0.155)	(0.110)	(0.375)	(0.131)	(0.143)
Country FE	No	No	No	No	No	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	GDP, POP	GDP, POP	GDP, POP	GDP, POP	GDP, POP	GDP, POP
Observations	6,586	6,280	6,780	6,751	6,869	6,424
Panel B: Country and year FE						
Top-quartile aligned	0.372***	0.182*	0.298***	−0.010	0.106*	0.131*
	(0.082)	(0.101)	(0.063)	(0.323)	(0.063)	(0.069)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	GDP, POP	GDP, POP	GDP, POP	GDP, POP	GDP, POP	GDP, POP
Observations	5,343	5,474	6,780	6,568	6,869	6,370

Standard errors clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. PPML with country and year fixed effects. Top-quartile aligned = 1 if country is in the top quartile of annual ICA activity: G7 ICA alignment for columns (1)–(4); Security Council ICA alignment for column (5); MDB-specific ICA alignment with the top 10% of voting shareholders (including cutoff ties), averaged across institutions, for column (6). Panel A coefficients reflect between-country variation in alignment; Panel B absorbs time-invariant heterogeneity and isolates within-country changes.

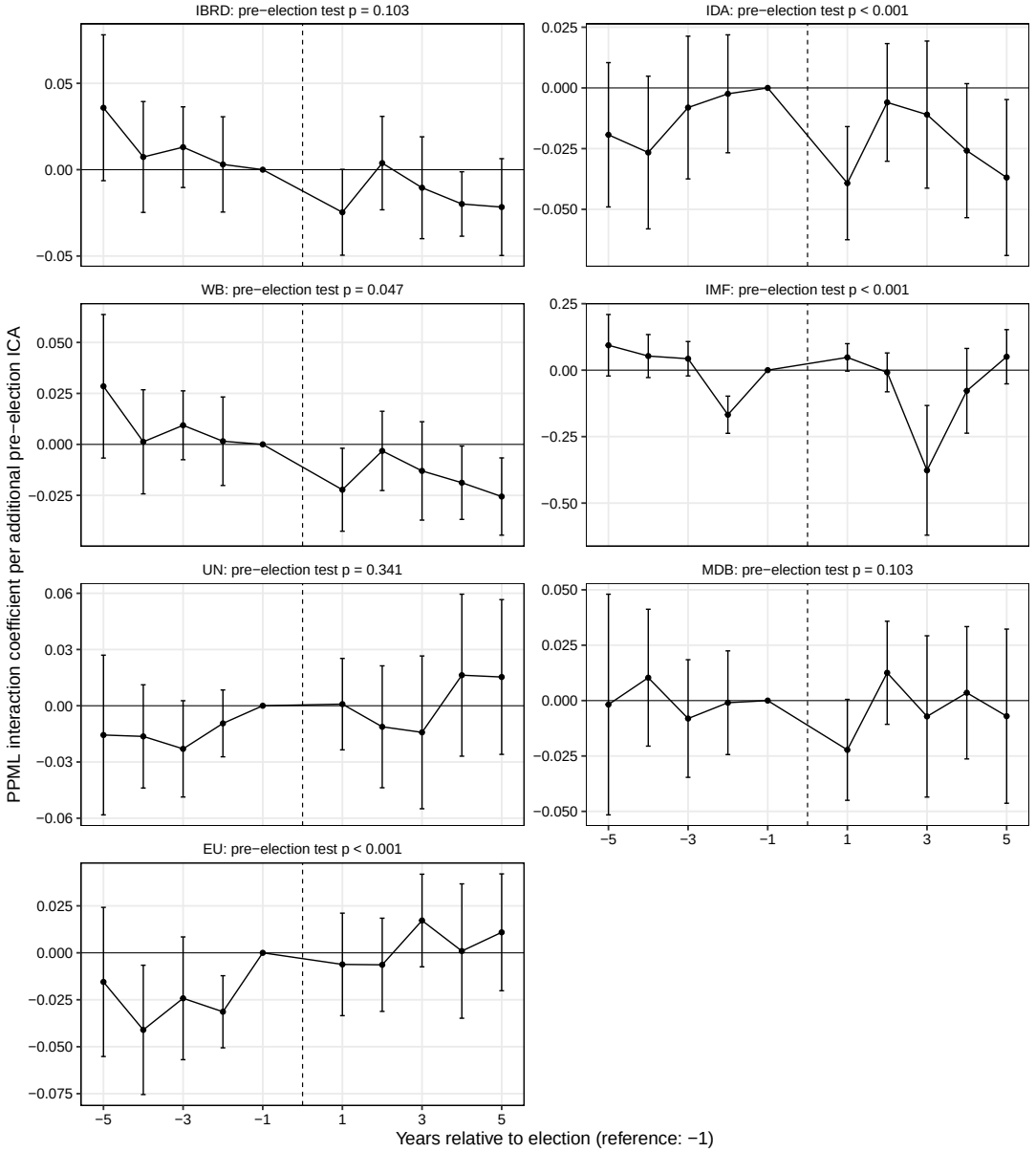
Figure A.55: Top-Quartile G7-Aligned Countries, 1950–2020



Notes: Highlighted countries are in the top quartile of G7 ICA activity (five-year rolling stock) in the respective year. Quartile thresholds computed cross-sectionally each year.

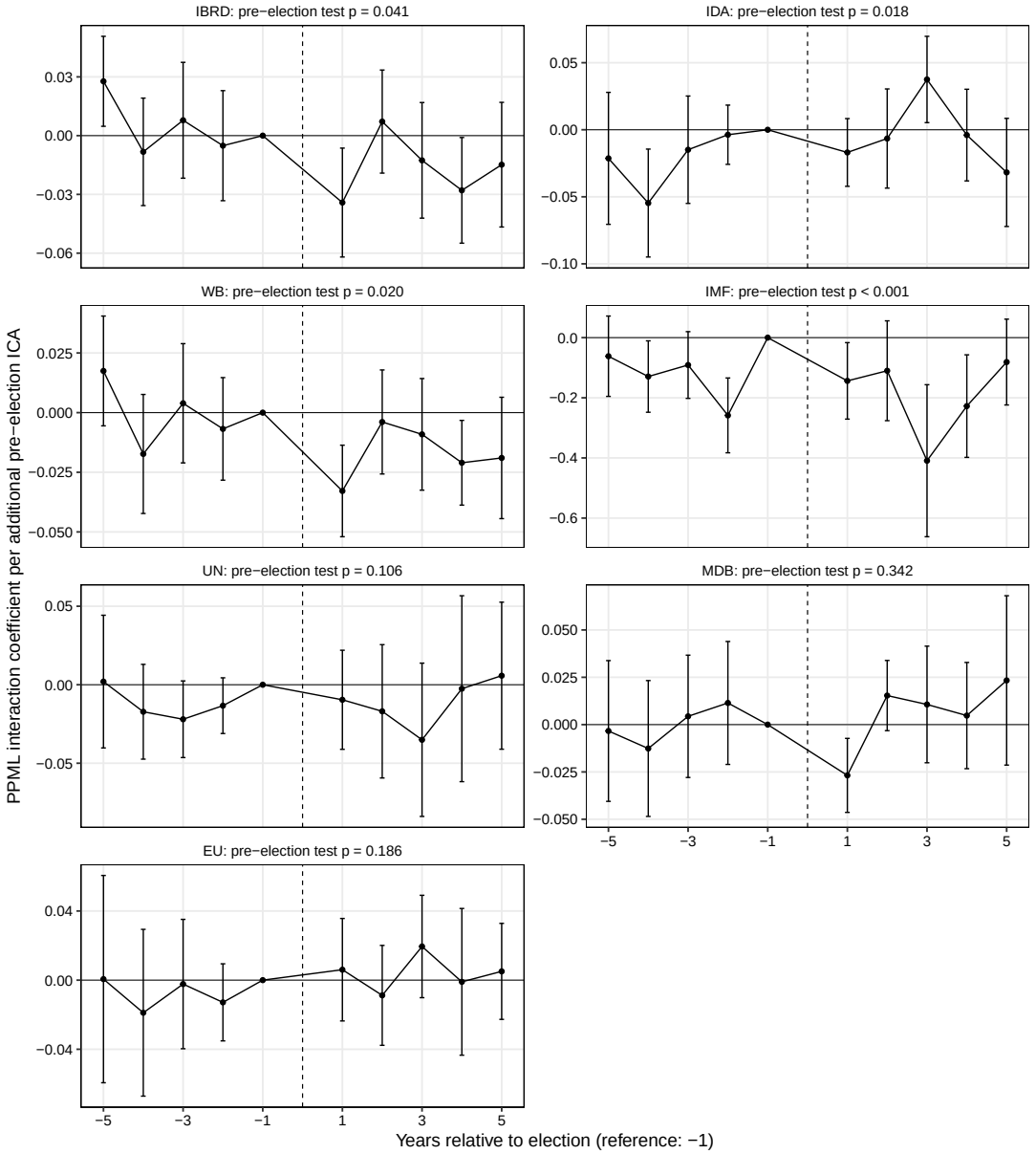
Electoral turnover: dynamics and alternative specifications

Figure A.56: Turnover Elections: Prior Alignment and Funding



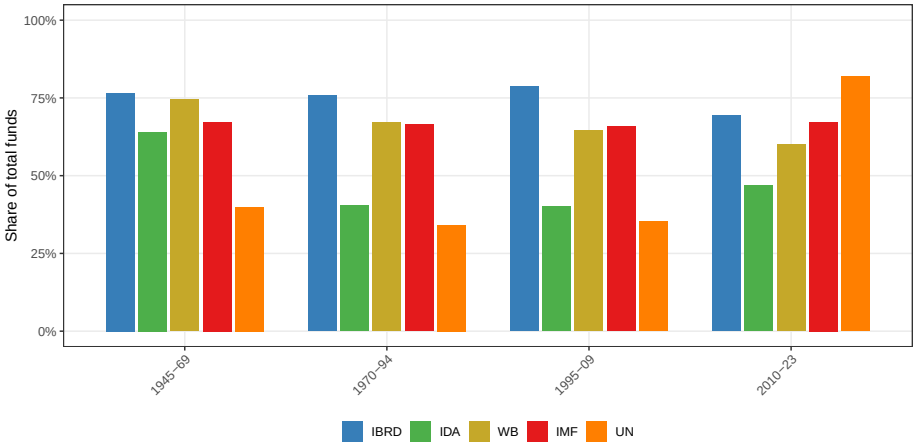
Notes: Three-year raw pre-election ICA count; PPML with episode and calendar-year fixed effects, log GDP and log population controls, and country-clustered 95% confidence intervals. Election year zero is omitted and year −1 is the reference. Points are event-year *imes* prior ICA interactions among turnovers. The reported Wald test jointly tests the four pre-election interactions, at years −5 through −2. MDB fixed effects are bank-specific.

Figure A.57: Turnover versus Retention: Differential Alignment Gradients



Notes: Three-year raw pre-election ICA count; PPML with episode and calendar-year fixed effects, log GDP and log population controls, and country-clustered 95% confidence intervals. Election year zero is omitted and year −1 is the reference. Points are event-year *imes* prior ICA *imes* turnover interactions: the difference between turnover and retention alignment gradients. The reported Wald test jointly tests the four pre-election interactions, at years −5 through −2. MDB fixed effects are bank-specific.

Figure A.58: Share of Institutional Funds Going to Top-Quartile G7-Aligned Countries (excl. China & India)



Share of institutional funds allocated to countries in the top quartile of alignment with G7 members (for IBRD, IDA, WB, IMF) or UN Security Council permanent members (for UN), excluding China and India from both numerator and denominator. Alignment is measured by the five-year cumulative stock of international cooperation agreements (ICAs) from the ICAD database. Quartile thresholds are computed cross-sectionally by year. The exclusion of China and India ensures that the results are not driven by these two large economies, which dominate the population and GDP shares in several periods.

Table A.25: Strategic Allocation to Top-Quartile G7-Aligned Countries: World Bank Total

Period	% world GDP	to top-quartile	POP	GDP	Countries
	WB Total				
1945–1969	0.01%	81%	61%	64%	31%
1970–1994	0.06%	72%	71%	67%	27%
1995–2009	0.04%	71%	74%	78%	26%
2010–2023	0.04%	63%	59%	50%	29%

Top-quartile G7-aligned: 75th percentile of 5-year cumulative ICA stock with G7, by year. ICA data from the ICAD database.
% top-quartile receivers refers to percentages over all developing countries.

Table A.26: Strategic Allocation to Top-Quartile G7-Aligned Countries: World Bank Total (excl. China & India)

Period	% world GDP	to top-quartile	POP	GDP	Countries
	WB Total				
1945–1969	0.01%	74%	50%	59%	31%
1970–1994	0.06%	67%	54%	61%	27%
1995–2009	0.04%	64%	51%	67%	26%
2010–2023	0.04%	60%	50%	60%	29%

China and India excluded from both numerator and denominator. Top-quartile status recomputed on reduced sample. ICA data from the ICAD database.

D. Constitutional Model: Proofs and Extensions

D.1 Derivation of First-Order Conditions

Nash equilibrium. Each country i solves $\max_{x_i \geq 0} b(x_i + x_j) - \frac{1}{2Y_i} x_i^2$. The first-order condition is $b'(G^N) = x_i^N / Y_i = a_i^N$. Since both countries equate the same marginal benefit $b'(G^N)$ to their respective marginal costs, we obtain $a_1^N = a_2^N$. Using $a_i = x_i / Y_i$, this implies $x_1^N / Y_1 = x_2^N / Y_2$, so that $x_1^N / x_2^N = Y_1 / Y_2$: the richer country contributes more in absolute terms but the same share of GDP.

Equal-representation institution. The institution solves $\max_{G \geq 0} b(G) - \frac{1}{2} C_1(s_1 G) - \frac{1}{2} C_2(s_2 G)$. Substituting $C_i(s_i G) = (s_i G)^2 / (2Y_i)$ and differentiating with respect to G:

$$b'(G) = \frac{1}{2}\left[\frac{s_1^2 G}{Y_1} + \frac{s_2^2 G}{Y_2}\right] = \frac{G}{2}\left(\frac{s_1^2}{Y_1} + \frac{s_2^2}{Y_2}\right),$$

which yields equation (15). The second-order condition is $b''(G) - \frac{1}{2}(s_1^2/Y_1 + s_2^2/Y_2) < 0$, satisfied by concavity of $b(\cdot)$.

Contribution-weighted institution. The institution solves $\max_{G \geq 0} b(G) - s_1 C_1(s_1 G) - s_2 C_2(s_2 G)$. Differentiating:

$$b'(G) = s_1 \cdot \frac{s_1^2 G}{Y_1} + s_2 \cdot \frac{s_2^2 G}{Y_2} = G\left(\frac{s_1^3}{Y_1} + \frac{s_2^3}{Y_2}\right),$$

which yields equation (17). The second-order condition is $b''(G) - (s_1^3/Y_1 + s_2^3/Y_2) < 0$.

D.2 Proof: Incidence Is Constitution-Independent

The burden ratio under any governance weights (ω_1, ω_2) follows directly from the definition $a_i = s_i G / Y_i$:

$$\frac{a_1}{a_2} = \frac{s_1 G / Y_1}{s_2 G / Y_2} = \frac{s_1}{s_2} \cdot \frac{Y_2}{Y_1}.$$

This expression depends only on assessment shares and income levels. It does not involve the governance weights ω_i, the benefit function $b(\cdot)$, or the level of provision G. The result holds for any constitution $\Omega(\cdot)$ and for any optimally chosen G, confirming equations (16) and (18).

D.3 Derivation: Price of Political Influence

From $a_i = s_i G / Y_i$, at fixed G:

$$\left.\frac{\partial a_i}{\partial s_i}\right|_G = \frac{G}{Y_i}.$$

Under $\omega_i = \Omega(s_i)$, by the inverse function theorem $\partial s_i / \partial \omega_i = 1 / \Omega'(s_i)$. By the chain rule:

$$\left.\frac{\partial a_i}{\partial \omega_i}\right|_G = \frac{\partial a_i}{\partial s_i} \cdot \frac{\partial s_i}{\partial \omega_i} = \frac{G}{Y_i \, \Omega'(s_i)},$$

which yields equation (12). In the benchmark $\Omega(s_i) = s_i$, $\Omega' = 1$ and this reduces to G/Y_i (equation (13)). Under equal representation $\Omega' = 0$, so the expression is undefined (infinite): no marginal contribution purchases additional votes.

D.4 Proof: Allocation Bias Comparative Static

The institution chooses θ to maximize $W(\theta) = [\omega_1\beta_1(\theta)+\omega_2\beta_2(\theta)]G$. The FOC is $\omega_1\beta_1'(\theta^*)+\omega_2\beta_2'(\theta^*) = 0$, and the SOC is $\omega_1\beta_1''(\theta^*) + \omega_2\beta_2''(\theta^*) < 0$ (since $\beta_i'' < 0$).

Applying the implicit function theorem to the FOC, using $\omega_2 = 1 - \omega_1$:

$$\frac{\partial\theta^*}{\partial\omega_1} = -\frac{\partial^2 W/\partial\theta\,\partial\omega_1}{\partial^2 W/\partial\theta^2} = -\frac{[\beta_1'(\theta^*) - \beta_2'(\theta^*)]\,G}{[\omega_1\beta_1''(\theta^*) + \omega_2\beta_2''(\theta^*)]\,G}.$$

The numerator is positive ($\beta_1' > 0 > \beta_2'$ at any interior θ^*), the denominator is negative (SOC), so $\partial\theta^*/\partial\omega_1 > 0$, confirming equation (20).

For corner solutions, the result extends by Topkis' monotone comparative statics theorem: $W(\theta, \omega_1)$ has strictly increasing differences in (θ, ω_1) since $\partial^2 W/\partial\theta\,\partial\omega_1 = [\beta_1'(\theta) - \beta_2'(\theta)]G > 0$ for all $\theta \in (0, 1)$.

D.5 Extension: Asymmetric Benefits and Political Dominance

The results in Section 6 characterize behavior conditional on assessment shares s and assume common benefit intensity. We now extend the model to allow countries to differ in how much they value the public good—an extension that pins down the equilibrium shares s^*.

Suppose

$$U_i = v_i\, b(G) - C_i(x_i), \qquad v_i > 0, \tag{22}$$

where v_i captures the intensity of demand for the public good: a higher v_i reflects greater exposure to the risks the institution addresses, stronger domestic political salience, or higher complementarity between the global public good and the domestic economy.

This heterogeneity has immediate implications for the decentralized benchmark. The Nash first-order condition becomes $v_i b'(G^N) = a_i^N$, so that

$$\frac{a_1^N}{a_2^N} = \frac{v_1}{v_2}. \tag{23}$$

When $v_1 > v_2$, country 1 contributes a larger fraction of its GDP even without any institution: this is the *exploitation of the great by the small* of Olson and Zeckhauser (1966), in which the member that values the good more is taxed by its own valuation in any voluntary provision regime.

Under contribution-weighted governance with $\Omega(s_i) = s_i$, the budget coalition takes s as given and solves

$$(s_1 v_1 + s_2 v_2)\, b'(G^W) = G^W \left(\frac{s_1^3}{Y_1} + \frac{s_2^3}{Y_2} \right). \tag{24}$$

The parameters v_i affect the level of provision G but not the incidence conditional on s: equation (18)

holds regardless of v_i. Valuation heterogeneity matters for incidence only through the constitutional equilibrium—through its effect on which shares s^* are sustained.

Turning to the constitutional stage, define the *benefit-adjusted financing capacity* of country i as $v_i Y_i$. In a reduced-form constitutional equilibrium, the equilibrium assessment shares satisfy

$$\frac{s_1^*}{s_2^*} = \Psi(\Lambda), \qquad \Lambda \equiv \frac{v_1 Y_1}{v_2 Y_2}, \tag{25}$$

where $\Psi(\cdot)$ summarizes the constitutional bargaining outcome: it is not derived from the budget-stage optimality conditions but encodes the equilibrium mapping from economic fundamentals to vote distributions under whatever bargaining protocol governs the constitutional stage. The only properties we impose are that $\Psi(\cdot)$ is strictly increasing—countries with greater benefit-adjusted capacity secure a larger share—and $\Psi(1) = 1$—symmetric fundamentals yield symmetric shares. In the benchmark linear case, $s_1^*/s_2^* = \Lambda$. This reduced-form treatment is in the spirit of Persson and Tabellini (2000): alternative constitutional rules map the same underlying economic fundamentals into different equilibrium redistributions.

Under contribution-weighted governance, equilibrium votes are $\omega_i^* = s_i^*$, so

$$\frac{\omega_1^*}{\omega_2^*} = \Psi(\Lambda), \qquad \omega_1^* > \omega_2^* \iff \Lambda > 1 \iff v_1 Y_1 > v_2 Y_2. \tag{26}$$

Political dominance accrues to the country with greater benefit-adjusted financing capacity. Two cases are instructive.

Case 1: $v_1 \geq v_2$. When the larger economy also values the public good at least as intensely, $\Lambda > Y_1/Y_2 > 1$. Valuation reinforces the income advantage. Country 1 not only faces a lower price of political influence (equation (13)) but also has a stronger incentive to purchase votes: it benefits more per unit of G and can acquire governance weight more cheaply in GDP terms. The result is unambiguous political dominance, and introducing benefit heterogeneity only amplifies the concentration of voting power relative to the common-benefits benchmark.

Case 2: $v_1 < v_2$, $Y_1 > Y_2$. This is the empirically relevant case: a rich country that cares *less* about the public good than a poorer member. Even here, $\Lambda > 1$—and country 1 dominates—whenever the income advantage outweighs the valuation gap: $Y_1/Y_2 > v_2/v_1$. The mechanism is purely fiscal: the price of influence is G/Y_i, so the rich country can outbid the poor country for votes even while valuing them less, simply because buying votes is cheap relative to its income. It is not that large economies are more eager for influence; it is that influence is on sale for them. This distinguishes the constitutional channel from standard demand-side explanations of political dominance.

Substituting back into equation (18):

$$\frac{a_1^*}{a_2^*} = \Psi(\Lambda) \cdot \frac{Y_2}{Y_1}. \tag{27}$$

Whether country 1 bears a larger or smaller GDP burden in equilibrium depends on whether $\Psi(\Lambda)$ exceeds or falls short of Y_1/Y_2. In the benchmark linear case, $a_1^*/a_2^* = v_1/v_2$—reproducing the Olson and Zeckhauser (1966) exploitation result through the institutional channel rather than through voluntary underprovision. The institution does not eliminate exploitation; it re-channels it through

the constitutional equilibrium.