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A Challenging Imperative

IMF Reform, the 17th Quota Review and Increasing Voice and Representation for Developing Countries

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ACRONYMS

AEs	Advanced economies
AQS	Actual Quota Shares
CQS	Calculated Quota Shares
EMDEs	Emerging market and developing economies
GDP	Gross domestic product
GQR	General Quota Review
G7	Group of 7
G20	Group of 20
G-24	Intergovernmental Group of 24
IMF	International Monetary Fund
IMFC	International Monetary and Financial Committee
PPP	Purchasing power parity
MER	Market exchange rate
OOL	Out-of-lineness
SDRs	Special Drawing Rights
UN	United Nations
WEO	World Economic Outlook

CONTENTS

Mumbai, India. Photo by Nazir Mulla via Unsplash.

EXECUTIVE SUMMARY

Quotas are at the core of the International Monetary Fund (IMF)'s finances and governance. Beyond serving as the IMF's primary funding source to support IMF lending and operations, quotas shape members' access to financing, allocation of Special Drawing Rights (SDRs) and voting power. According to the IMF Articles of Agreement, the Board of Governors must assess quota size and distribution every five years to ensure that the IMF has an adequate level of funds to fulfill its mandate. Moreover, quota adjustments are required to reflect members' relative positions in the global economy in order to determine financial contributions and, importantly, the distribution of voting power across the IMF.

This year, the IMF stands at a crossroads as it is set to undergo its 17th General Quota Review (GQR). Without an increase in quotas, the IMF will struggle to fulfill its mission of preventing and mitigating balance of payments crises and ensuring financial stability. However, applying the quota formula—agreed upon by major shareholders and the broader membership in 2008 (under the 14th GQR)—appears politically unfeasible in the current environment. As the 17th GQR approaches, IMF members face a difficult proposition: how can they boost financial resources for crisis response while also reforming governance to maintain legitimacy and credibility?

Quota adjustments have not kept pace with the need to prevent and mitigate balance of payments problems and financial instability in the world economy, nor have they aligned emerging market and development economies' (EMDEs) growth trajectories, leading to significant misalignment and underrepresentation. EMDEs account for 60 percent of global gross domestic product (GDP) but hold just 40 percent of IMF voting power. The 16th GRQ, finalized in December 2023, made no changes to quota distribution.

Quota re-alignment is essential to ensuring the legitimacy and credibility of the IMF as an international organization. In 2024, the members of International Monetary and Financial Committee (IMFC) – who advise IMF Board of Governors – acknowledged "*the urgency and importance of realignment in quota shares to better reflect members' relative positions in the world economy, while protecting the quota shares of the poorest members*." In the same year, the Intergovernmental Group of 24 (G-24) said that failing to address the underrepresentation of EMDEs in the IMF governance structure "*undermine[s] the organization's legitimacy and credibility*."

There is a window of opportunity as the IMF undertakes its 17th GRQ, starting with developing options, including a new quota formula, by June 2025. Changing the quota formula requires 85 percent of the IMF Board of Governors' voting power for approval—effectively giving the United States and Europe veto power due to their large quota shares. As a result, any reform must balance increasing EMDEs' quotas with political feasibility.

This report explores ways to better align the 17th GRQ with the growing economic importance of EMDEs, while also increasing their voice and representation in IMF governance. We examine the trade-offs between different options for achieving this.

First, we assess "politically feasible" quota realignment, exploring whether utilizing the current IMF formula or implementing quota reform is the better option. Political feasibility is no doubt subjective and negotiable, but it is sufficient to say that no outcome is politically feasible that strips the US and Euro Area (with the UK) of veto power and does not increase the voice and representation of China (albeit, without yielding veto power) and EMDEs.

Second, we analyze EMDEs' voting power within the IMF, including scenarios that involve increasing IMF basic votes to restore their original levels. Finally, we explore additional IMF reforms aimed at enhancing legitimacy, amplifying EMDEs' voice and compensating countries that may lose quotas shares from changes.

The report shows that to find a balance between maximizing the representation of EMDEs as a group and pursuing a politically feasible proposal, it is necessary to modify the current quota formula.

Key findings:

- **The choice of variables (and their weight) in the IMF formula produces results biased toward advanced economies.** Two examples are that the IMF formula relies on Market Exchange Rates (MER) rather than Purchasing Power Parity (PPP) as a measure for GDP, further undervaluing EMDEs' weight in the global economy. Second, the IMF's Openness variable double counts cross-border flows producing biased results in favor of advanced economies.
- **Typically, the quota formula applies to newly created quotas, not redistributing existing ones, but if the entire quota distribution were realigned strictly following the current IMF formula:**
    - **US voting power would drop to 13.99 percent, causing it to lose its veto power at the IMF.** While there are legitimate claims that one country should not have so much control over an international organization, this option is a non-starter for current negotiations;
    - **China's voting share would more than double from 6.08 percent to 13.84 percent and almost surpass the US.** In order to maintain the legitimacy of the IMF, any new quota allocation must at least in part recognize China's significant economic growth, but such a large increase for China could be equally politically unfeasible in the current environment; and
    - **Countries at the lower end of the income distribution would lose quota shares, rather than increase it. Emerging market and developing regions outside of Asia and Europe would also lose voting power.** Countries in sub-Saharan Africa, Middle East and Central Asia, and Latin America and the Caribbean would be particularly vulnerable to losing shares due to their low growth trajectories.
- **Scenarios aimed at correcting asymmetries in the current IMF formula, through increase of basic votes alone, would benefit the vast majority of developing countries but penalize China,** making it also likely politically unfeasible.

Policy Recommendations

To increase the voice and representation of EMDEs, particularly of those at the bottom of the income distribution, the IMF membership should:

- **Simplify the IMF quota formula** to serve as a clearer guide for future realignments. Building on past membership agreements, the IMF should prioritize GDP as the key variable and further increase its weight, particularly by relying more on PPP GDP to better reflect EMDEs' role in the global economy. At the same time, given the role of quotas, a measure of member's vulnerabilities to balance of payment shocks could be considered as is the case in the current formula (variability). To maximize EMDEs'

weight in the IMF while safeguarding the poorest members and maintain "politically feasibility" conditions, we propose:

A. Raising the GDP blend weight to 85 percent, with GDP PPP accounting for 38 percent;; and eliminating Openness and Reserves. The weight of the compression factor would increase to 0.903.

B. Given that it is highly unlikely that eliminating openness will gain members' support, an alternative feasible reform could raise the GDP blend weight to 85 percent, with GDP PPP accounting for 43 percent; reduce Openness to 15 percent; and eliminate Variability and Reserves. The weight of the compression factor would increase to 0.905.

- **Complement the revised formula with mechanisms to compensate the poorest EMDEs that would end with lower quota shares.** This includes increasing chairs to underserved regions (sub-Saharan Africa, Latin America and the Caribbean) and safeguarding the shares of the poorest members.
- **Increase IMF basic votes,** helping to mitigate voting power disparities and transforming the IMF in a more democratic organization.
- **Increasing IMF basic votes alone will not correct China's quota misalignments.** To address this, an increase in basic votes must be combined with a quota adjustment that increases China's weight, either through a new formula or an ad hoc quota increase.
- **Implement broader governance reforms.** Revising the quota formula alone will not fully address representation issues. Additional reforms are needed to ensure EMDEs and the poorest countries have an effective voice within the IMF, including:

  A. Strengthening Executive Board Representation for EMDEs. The number of Executive Board chairs for EMDEs should be increased to enhance their influence in decision-making. Overrepresentation of European countries should also be addressed, and the composition of constituencies must be reconsidered.

  B. Reforming Leadership Selection. This includes ending the longstanding "gentlemen's agreement" that reserves IMF leadership for a European; adopting a merit-based, transparent selection process to improve institutional legitimacy; and an additional Deputy Managing Director position could potentially improve representation of low-income countries.

  C. Consider separating the multiple roles of quotas. A more ambitious policy would be to consider mechanisms that differentiate voting on governance issues from access to IMF resources or SDR allocation, aligning with income and vulnerability measures.

  D. Leverage Multilateral Forums for Reform Consensus: EMDEs should utilize the Group of 20 (G20) and United Nations platforms to build momentum for IMF governance reforms, including a new expert group to provide technical recommendations on quota and decision-making structures.

Without bold reforms that reflect the growing economic weight of EMDEs, the IMF risks losing legitimacy and becoming less effective in addressing global financial challenges. The 17th GQR is not just an opportunity—it is a necessity to realign quotas, strengthen governance and ensure that the IMF remains fit for purpose in a rapidly changing global economy.

Santiago, Chile. Photo by Matheus Antunes via Unsplash.

INTRODUCTION

Quotas are at the core of the International Monetary Fund (IMF)'s finances and governance, serving multiple, sometimes conflicting, roles. They are the IMF's primary resource base, setting members' financial contributions, while also determining members' maximum access to financing and the allocation of Special Drawing Rights (SDRs) – an international reserve asset created by the IMF to supplement member countries' official reserves. Beyond that, quotas are the pillar of member's voting power in the IMF (IMF 2022a). Hence, debates over quota distribution are contentious, as they reflect the institution's power dynamics.

According to the IMF Articles of Agreements, at least every five years the IMF Board of Governors should conduct a General Quota Review (GQR), a process that assesses if i) the IMF has sufficient resources (i.e., size of quotas) and ii) quota distribution is adequately reflecting members' position in the world economy (IMF 2022a). Emerging market and developing economies have long called for quota-based increases in IMF resources so that the IMF can fulfill its mission and increase the voice and representation of its membership (G24 2016; 2017; 2024). And the call for a "strong, quota-based, and adequately resourced IMF" has been reaffirmed multiple times within the Group of 20 (G20) (G20 2016; 2024a). Recent research has shown that it is imperative to increase size of the IMF to respond to the increasing incidence of external shocks in the global economy and allow the IMF to play its proper role at the center of the Global Financial Safety Net (IMF 2017; Mühlich and Zucker-Marques 2023; Mühlich et al. 2022).

The GRQ is meant to adjust quota distribution to reflect shifts in countries' economic weight (Ramlogan et al. 2007; Mohan 2021). However, these adjustments have often lagged, creating significant misalignments between quota shares and members' global gross domestic product (GDP) weight, especially over the past two decades (Mohan 2021). Advanced economies (AE), representing 20 percent of Fund members and 15 percent of the world's population, hold 60 percent of the votes despite their declining share in the global economy, from 65 percent in the 1980s to just over 40 percent in 2023. In contrast, emerging market and developing economies (EMDEs) remain underrepresented, even as their economic weight has increased from 35 percent to 60 percent over the same period.[1] China, now accounting for over 18 percent of global GDP, has 6.08 percent of voting shares, while Japan, with 3.5 percent of global GDP, holds 6.14 percent of voting shares. The power imbalance is stark: Germany's quota matches that of the entire African continent (Lwere, Floyd, and Ryder 2024; Merling and Kring 2023). Meanwhile, countries more likely to borrow from the IMF, with limited access to financing have lower quotas and limited influence (Mühlich and Zucker-Marques 2023).

In 2024, the Intergovernmental Group of 24 (G-24) – a coalition of EMDEs – highlighted that failing to address the underrepresentation of the EMDEs in the IMF governance structure "*undermine[s] the organization's legitimacy and credibility*" (G24 2024). The members of International Monetary and Financial Committee (IMFC) – who advises IMF Board of Governors – acknowledged in 2024 "*the urgency and importance of realignment in quota shares to better reflect members' relative positions in the world economy, while protecting the quota shares of the poorest members*" (IMFC 2024).

Since its creation in 1944, the IMF has held 16 GQRs, with 9 resulting in quota increases. The 16th GQR, concluded in December 2023, raised IMF quotas by 50 percent. This was

[1] Global shares based on gross domestic product based on purchasing-power-parity (PPP) and the data from the IMF World Economic Outlook Database was used (as of the update of October 2024).

unprecedented in recent history, where a quota increase occurred without any redistribution, raising concerns about the IMF's legitimacy (Kring and Gao 2023; Burgisser 2024; Nogueira Batista Jr. 2024). At the conclusion of the 16th GQR, IMF members acknowledged the need for quota realignment and tasked the Executive Board with developing approaches for realignment during the 17th GQR, including through a new formula, by June 2025 (IMFC 2023 and 2024). In 2024, the G20 Finance Ministers and Central Bank Governors emphasized the urgent need for IMF quota realignment to better reflect members' positions in the global economy while protecting the shares of the poorest members (G20 2024a).

Quota realignment is politically challenging, as the IMF's Articles of Agreement require 85 percent approval from the Board of Governors. With the US holding 16.5 percent of voting power, it effectively has veto power, limiting changes to quota distribution. As Nogueria Batista (2024) noted, "veto power is used to protect veto power."

Given the current voting structure and geopolitical context, any quota realignment proposal must account for its political feasibility. While political feasibility is dynamic and subject to perceptions from different people, in this report, we define the political feasibility of a quota reform as meeting two conditions: first, maintaining the veto power of incumbent groups (the US and Euro Area), and second, preventing their perceived contenders (like China) from gaining veto power.

We do not assume that these conditions are always entirely unchangeable or immune to negotiation. Increasing pressure on the IMF to reflect the evolving multipolar international order along with growing concerns about the institution's legitimacy, could, in theory, push incumbent powers to cede veto power and increase voting power of EMDEs. Moreover, countries have the agency to negotiate alternative arrangements within the IMF and to advance the IMF reform agenda in other forums, including the United Nations and the G20. Nonetheless, maintaining veto power of incumbent groups, while preventing China from gaining it, remains the primary internal dynamic shaping discussions over a new IMF quota formula.

Considering only the politically feasible options for reform, this report explores ways to increase the voice and representation in IMF governance of EMDEs, particularly those with lower income levels. Each reform aims to accomplish certain objectives, and in this case, this report aims to analyze only those changes that will allow getting closer to the objective outlined by IMF members at the 16th GQR: *"(…) Any adjustment in quota shares would be expected to result in increases in the quota shares of dynamic economies in line with their relative positions in the world economy and hence likely in the share of emerging markets and developing countries as a whole, while protecting the voice and representation of the poorest members"* (IMF 2023). Hence, only changes to the formula that implied a potential improvement of EMDEs quota shares as a group, particularly those of the lowest income, were considered for the formulation of quota formula reform proposals (scenarios).

We examine the trade-offs between different options for achieving this. First, we introduce the IMF quota formula, assessing which variables contribute to realigning IMF quotas with EMDEs. Second, we assess "politically feasible" quota realignment, exploring whether utilizing the current IMF formula or implementing quota reform is the better option. Third, we analyze EMDEs' voting power within the IMF, including scenarios stemming from quota formula reform and increasing IMF basic votes. Finally, we explore additional IMF reforms aimed at enhancing legitimacy, amplifying EMDEs' voice and compensating countries that may lose quotas shares from changes. The report shows that to find a balance between maximizing the representation of EMDEs as a group and pursuing a politically feasible proposal, it is necessary to modify

the current quota formula. We propose a new quota formula to more equitably realign quota shares and to better reflect global economic realities.

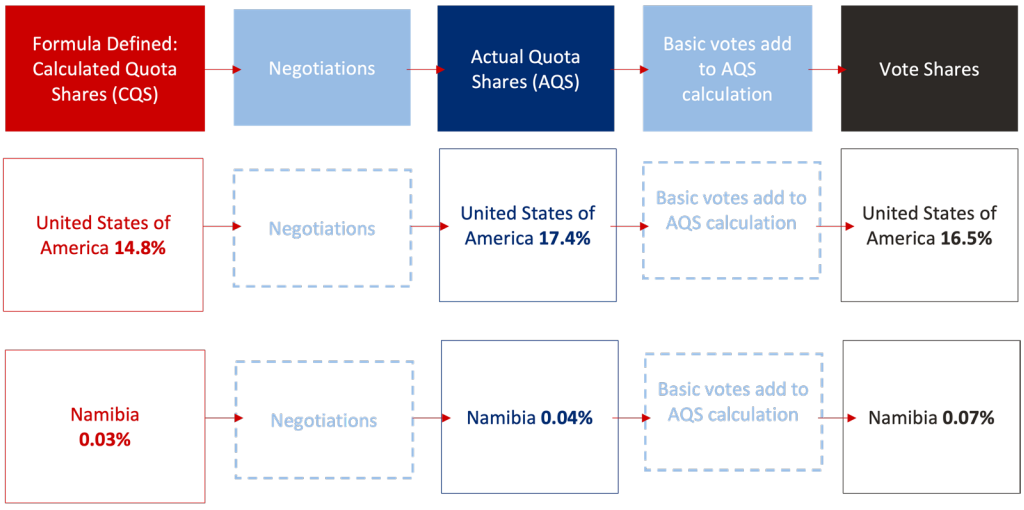
THE CURRENT FORMULA: ASSESSING ITS ADEQUACY FOR FUTURE REALIGNMENTS

The IMF quota formula guides quota distribution and voting power but does not directly determine them. As shown in Figure 1, the IMF quota formula provides the Calculated Quota Shares (CQS), which guide the negotiations among member states to establish the Actual Quota Shares (AQS). For example, while the US has a CQS of 14.8 percent, its AQS is 17.4 percent. The AQS determines a country's IMF contributions, SDR allocations and access to IMF finance, if needed.

A country's AQS does not equate to its voting power in the IMF. Voting power is determined by converting AQS into an absolute number, which is then added to a basic vote share equally distributed among all countries. Currently, basic votes represent 5.502 percent of total votes, though this share has varied over time. When the IMF was created, basic votes accounted for 11.3 percent of total votes. Afterwards, when new members joined without a general quota increase, basic votes' share rose to a peak of around 16 percent in the late 1950s before declining to 2 percent just before the 2008 reform, when again basic votes increased up to 5.502 percent. Recently, the United Nations and experts have been calling for an increase in basic votes (UN 2023; UN 2025; Nogueira Batista Jr. 2024).

Basic votes, which is based on the idea of equality among states, are similar to the UN's approach of "one country, one vote system" and help mitigate voting power disparities. Countries with higher AQS see a slight decrease in voting power, while countries with lower AQS experience a slight increase in their voting share. For instance, the US holds 17.4 percent of quotas and 16.5 percent of voting power, whereas smaller economies like Namibia, with an AQS of 0.04 percent, see their voting power boosted to 0.07 percent due to the allocation of basic votes.

Figure 1: IMF Quotas and Voting Shares, with Country Examples



Source: Arauz et al. 2022; IMF 2010; IMF 2016; and IMF 2024a.

Although the IMF Articles of Agreement establish a periodic review of quotas, it does not define any specific metrics or guidelines for quota distribution. When the IMF was created in 1944, its 45 members considered variables like national income, reserves, external trade and export fluctuations (IMF 2002). Although relying on economic variables gave the impression of a neutral and technical process, the variables and weights were, in reality, reverse engineered to align with a political agreement between major economies regarding their quota shares (Portugal 2006). Since 1944, the quota formula has evolved slowly over time. Usually, discussions around the formula only become relevant if there is a political decision to increase the level of IMF quota resources.

In the past, the IMF distributed quota increases through a combination of three different methods: i) *equiproportional allocation*, where new shares were distributed proportionally according to existing quotas, leaving the distribution unchanged and ignoring the formula; ii) *selective allocation*, where new shares were distributed according to the quota formula, resulting in each members' quota share a weighted average of AQS and CQS; iii) *ad hoc allocation*, where new shares were distributed to an individual or a subset of members based on specific criteria (such as GDP) or other political agreements during the occasion of GQR negotiation. Historically, the IMF has favored equiproportional and ad hoc allocations of quota increases, rather than selective allocation which would rely on the formula (IMF 2021). On historical average, for past GQRs, equiproportional allocations accounted for 70 percent of the total quota increase (Portugal 2006), during the 13th and 14th GRQ *ad hoc* allocation was a tool to rebalance members voting power (IMF 2008). But for the last GRQ, the quota increase was completely equiproportional, thereby leaving members' AQS unchanged (IMF 2023). This practice has resulted in a growing disparity between the CQS delivered by the formula and the AQS held by members.

The current formula was established as a result of the 2008 Quota and Voice Reforms,[2] a landmark achievement that strengthened the voice and representation of EMDEs and marked the first change in the formula in more than 25 years. Despite its improvements, many members had and continue to have reservations (IMF 2021).[3] The formula is expected to be simple and transparent. Although most experts would agree that the single best measure of a country's relative position in the global economy is its GDP, even this metric can be contentious as there is no single calculation for GDP (Truman 2012). The current formula is composed of four variables: GDP, openness, variability and reserves. They are expressed in shares of global totals, with the variables assigned weights summing to 1.

$$CQS = (0.5\ GDP_{blended} + 0.3\ Openness + 0.15\ Variability + 0.05\ Reserves)^{Compression\ factor}$$

[2] In April 2008, the IMF's Board of Governors approved a Resolution on Reform of Quota and Voice in the Fund that included targeted quota increases for members aiming to increase representation of dynamic economies using the newly approved quota formula. Then, in December 2010, the Board of Governors approved further quota and governance reforms with the completion of the 14th GQR and an amendment of the IMF's Articles of Agreement on the reform of the Executive Board.

[3] As expressed in the latest IMFC and G20 Communiqués.

Description of the formula variables and parameters:

- **GDP:** The 3-year average of GDP,[4] calculated using a blended weighted average of 60 percent GDP at market prices (MER) and 40 percent GDP at purchasing power parity (PPP).[5]
- **Openness:** The 5-year annual average of the sum of current receipts and current payments (goods, services, primary income, secondary income and capital account) of all economic transactions between resident and nonresident entities other than those relating to financial account transactions (data are based on the "analytic presentation" of the balance of payments).
- **Variability:** The variability of current receipts and net capital flows measured as the standard deviation from a centered 3-year trend over a 13-year period of the sum of current receipts and net capital flows or minus the financial account balance.[6]
- **Reserves:** The 12-month average of official reserves of the last year included in the data.[7]
- **Compression factor (k):** This exponent (currently k=0.95) is applied to the uncompressed CQS and rescaled to total 100. It aims to reduce quota share dispersion by decreasing the CQS of larger members and increasing those of smaller ones (Nogueira Batista 2024). Together with basic votes, it fosters a more balanced distribution of voting power between the largest and smallest countries.

Because the CQS changes over time due to economic developments and the AQS continues to be determined mainly by IMF governance, there is a growing gap between both. The current gap between CQS and AQS has surpassed the levels observed before the 14th GQR (IMF 2022b and 2021). In light of this increasing misalignment, we analyze whether the current formula could provide a basis for future realignments by first assessing its political feasibility,[8] and second, evaluating whether it can deliver a more balanced distribution of quota shares in favor of EMDEs as a group and countries at the bottom of the income distribution.

The degree to which a member's CQS diverges from its AQS is a metric referred to as "out-of-lineness" (OOL) (IMF 2021). When a member's CQS is lower than its AQS (negative OOL), the country is considered overrepresented based on the formula's criteria. Conversely, when the CQS exceeds the AQS, the country is considered underrepresented. To calculate this difference across countries, we used the IMF's 2024 update on CQS and AQS that were set in the 14th GQR (2010).[9]

[4] The time frame considered for this computation entails the last 3 years. For instance, the last IMF CQS data update was published in 2024 and it included information from 2010 through 2022. For GDP, the years considered were 2022, 2021 and 2020. However, the years 2020-2021 should be excluded from any computation since the impact of COVID-19 was asymmetrical across countries, with EMDEs being more negatively affected than AEs (on average), which has implications for their CQS.

[5] The PPP GDP data are calculated by dividing a country's nominal GDP in its own currency by its corresponding PPP factor. The PPP price level index used is based on the International Comparisons Program (ICP) databases published by the World Bank and IMF's own calculations to extrapolate the data for the years where ICP's data is not available.

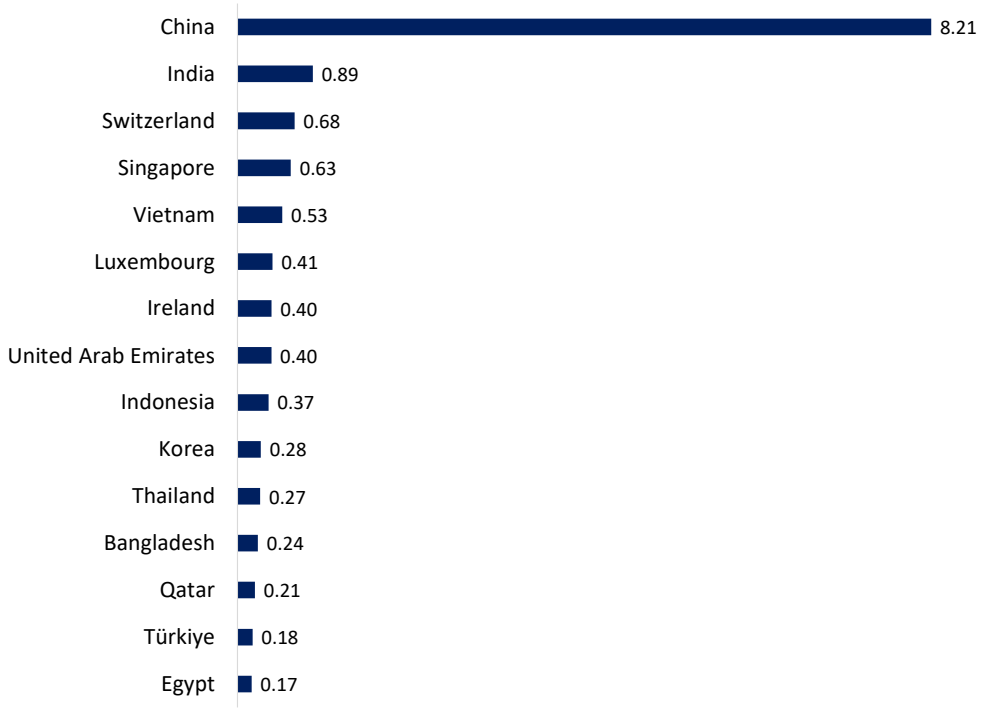
[6] Net capital flows relate to cross-border transactions of the financial account in all external financial assets and liabilities (i.e., the financial account balance based on the "analytic presentation" of the balance of payments). This concept excludes reserve assets, credit and loans from the Fund, and exceptional financing.

[7] Official reserves include foreign exchange, SDR holdings, reserve position in the Fund and monetary gold.

[8] *Politically feasible options* are those that do not alter certain de facto agreements, such as which country holds veto power (i.e., voting power equal to or more than 15 percent). Therefore, when changing the formula, it is important to consider whether the veto powers held by key stakeholders, such as the US and Europe, will be modified, and if any other country, notably China, can potentially acquire veto power under the proposed changes.

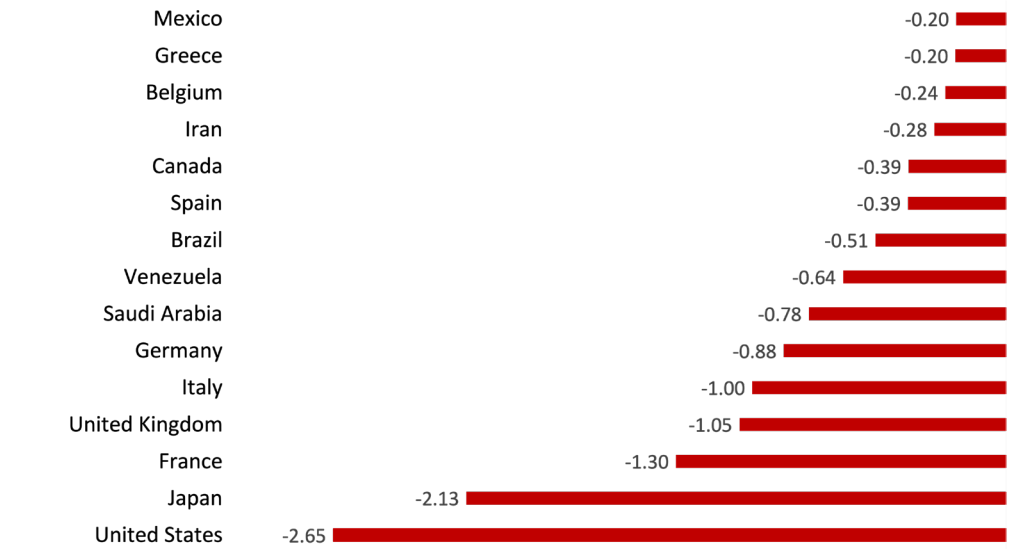
[9] IMF CQS data includes data from 2010-2022 to compute the CQS. Actual quota shares were obtained from the IMF's publication on quotas and voting power as of September 2024 before the incorporation of Liechtenstein as a new member in October 2024.

Figure 2: Out-of-Lineness: Countries with the Largest Gains from a Quota Realignment (in percentage points)



Source: Authors' calculation based on IMF (2022 and 2024).

Figure 3: Out-of-Lineness: Countries with the Largest Losses from a Quota Realignment (in percentage points)



Source: Authors' calculation based on IMF (2022 and 2024).

The larger differences in OOL in absolute terms are concentrated in a small number of countries, as the OOL for 142 out of 190 countries falls within a range of -0.1 percentage points (p.p.) to +0.1 p.p. However, the 15 countries with the largest absolute differences account for 70 percent of the total OOL in absolute terms. Figure 2 shows that China has the largest OOL, suggesting it would be the primary beneficiary of a quota realignment following the current IMF quota formula, more than doubling its quota share with an increase of 8.21 p.p., followed by India and Switzerland with increases of 0.89 p.p. and 0.68 p.p., respectively. Under this scenario, China's quota share would rise to 14.61 percent, which implies that it will not gain veto power. Figure 3 shows the top 15 countries that are considered overrepresented. The US leads with an overrepresentation of 2.65 p.p., followed by Japan (-2.13 p.p.) and France (-1.30 p.p.). If the OOL were to be adjusted based on the current CQS and IMF member's voting power followed the CQS, the US would end with a quota share of 14.77 percent and a voting power even lower after considering the basic votes. This implies that it would lose its veto power, highlighting the political challenges to approve a realignment based on correcting OOL under the current formula.

What is more, such an approach would decrease the representation of EMDEs (excluding China) as a group. Tables 1 and 2 show the winners and losers by region and by income level should quota share be realigned based on the current CQS. For the grouping by region, we use the 2024 World Economic Outlook (WEO) classification. For the grouping by income level, we consider the quartiles of the 3-year average of GDP per capita at current US dollars for the years 2023, 2022 and 2019 (excluding years particularly affected by COVID-19).

Table 1 shows that, although EMDEs win a participation of 8 p.p., this is mainly driven by China and the rest of Asia. Excluding China, the quota share of EMDEs declines by 0.25 p.p., from 32 percent to 31.8 percent. This is more evident in the case of Latin America and the Caribbean, which loses 1.5 p.p. Most EMDEs either experience a reduction in their quota shares or no change, with only 27 percent of countries in this group benefiting from a realignment. Furthermore, when examining the distribution by income (as shown in Table 2), the bottom 25 percent of countries, representing the lowest income group, see a decline in their quota share because of this realignment as an aggregate (-0.6 p.p.) and 85 percent of the countries included in this group experience a reduction or no substantial change of their quota shares.

Table 1: IMF Quota Realignment Using the Current Formula: Distribution of Winners and Losers by Region

By Region	CQS	AQS	OOL: CQS-AQS	Number of countries	Number of winners	Number of losers	Number without changes
Advanced Economies	54.44	61.56	-7.12	37	15	17	5
US	14.78	17.43	-2.65	1	0	1	0
Euro Area and UK	22.07	26.48	-4.40	21	8	11	2
Japan	4.34	6.47	-2.13	1	0	1	0
Others	12.41	11.19	1.22	14	7	4	3
Emerging Markets and Developing Economies	46.40	38.44	7.96	153	41	53	59
China	14.61	6.40	8.21	1	1	0	0
Asia excl. China	9.05	6.58	2.47	29	10	3	16
Europe	6.45	6.41	0.04	15	4	5	6
Middle East & Central Asia	7.11	7.61	-0.50	31	14	13	4
Sub-Saharan Africa	2.72	3.53	-0.80	45	4	20	21
Latin America and the Caribbean	6.46	7.92	-1.46	32	8	12	12

Note: Regions are categorized according to the 2024 WEO classification, with two exceptions: (1) the Euro Area and the UK are grouped together due to their aligned position and (2) China is excluded from the EMDEs Asia group. The number of "winners" and "losers" is based on countries with absolute differences in quota shares (OOL) exceeding 0.01 percentage points. Countries classified as "without changes" have OOL shifts between -0.01 and +0.01 percentage points.

Source: Authors' calculations based on IMF data.

Table 2: IMF Quota Realignment Using the Current Formula: Distribution of Winners and Losers by Income Groups

By Income Groups	CQS	AQS	OOL: CQS-AQS	Number of countries	Number of winners	Number of losers	Number without changes
Bottom Quartile	2.85	3.44	-0.59	48	7	21	20
2nd Quartile	10.72	9.61	1.11	47	15	13	19
3rd Quartile	29.67	21.98	7.68	47	16	15	16
Top Quartile	56.76	64.97	-8.20	48	18	21	9

Note: Income groups were defined according to the 3-year average of GDP per capita at current US dollars (excludes years particularly affected by COVID-19, i.e., 2020 and 2021). This was done using the 2024 WEO database complemented by the World Bank Group database for those countries that had missing data.

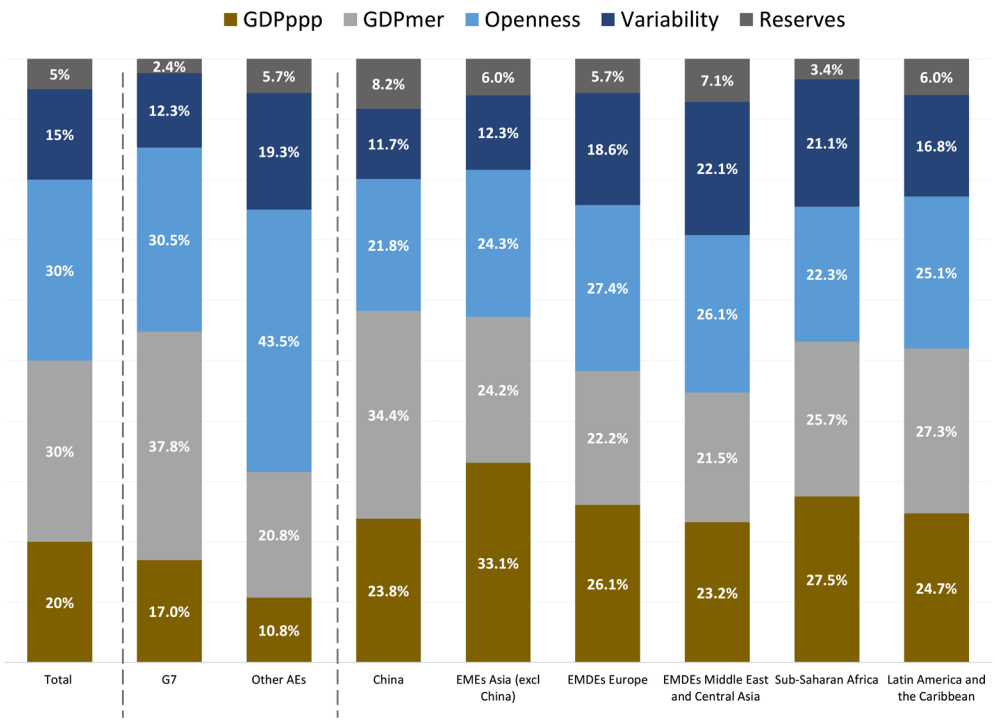
Source: Authors' calculations based on IMF and World Bank Group data.

Using the current IMF quota formula for realignment has major drawbacks. First, it fails a key condition of our "political feasibility test," as the US, an incumbent power, would lose its veto, making approval unlikely (Nogueira Batista 2024). Moreover, if the goal is to align with the 16th GQR by increasing EMDEs' share while protecting the poorest members, the formula falls short—EMDEs excluding China would lose 0.25 p.p. and the lowest-income quartile would lose 0.59 points. This highlights the need for a new formula. To advance this discussion, we first examine the current formula's components, values and impact on CQS across countries.

Examining the Current Formula for Areas of Reform

Each variable's contribution to the CQS is specific to each member and reflects its importance in determining an individual member's quota share. It is calculated as the variable value times its weight divided by the weighted sum of all variables before applying the compression factor (Gonzalez 2022). This method was extended to compute the contributions of each variable by country groups.[10]

Figure 4: Variable Contributions to the CQS Prior Compression, by Country Group



Note: Country groups are defined by the classification of the WEO 2024, the exception is the exclusion of China from EMDEs Asia. AE= Advanced Economies, EMDE=Emerging market and developing economies. GDP PPP = Gross domestic product at purchasing power parity. GDP MER = gross domestic product at market exchange rate. For each country group, the sum of the variable contributions is equal to 100 percent.

Source: Authors' calculations based on IMF data.

[10] To compute the contribution of each variable for each country group, we first calculated the total sum of the variable across all countries within a specific group, expressed as global shares. The contribution of each variable was then obtained by dividing the total sum of that variable by the total CQS (without compression) for the group.

Figure 4 illustrates six things. First, GDP is the most important variable for the computation of quota shares for Group of 7 (G7) countries and most EMDE subgroups. The exceptions are "Other AEs" (particularly, for non-G7 Advanced Countries in Europe) and "EMDEs Europe" for which Openness and Variability are both more important than for other groups. Second, GDP PPP has a larger contribution for the quota shares of EMDEs (except China and Latin America and the Caribbean) while GDP MER is more relevant to all AEs. Third, the impact of openness is greater for AEs than for EMDEs. Fourth, Variability has a low contribution in EMDEs Asia (excluding China) as well as China exclusively. However, this is not the case for the rest of the EMDEs groups, for which the contribution exceeds the weight of the variable. For example, in EMDEs Middle East and Central Asia, the contribution is 22 percent in the aggregate total versus a 15 percent weight of the variable in the formula, and in sub-Saharan Africa, it is 21 percent. Fifth, Variability for AEs also presents a mixed picture, being more important for "Other AEs" countries rather than G7. Sixth, Reserves have a greater contribution for EMDEs, particularly for EMDEs in Asia and in Middle East and Central Asia.

VARIABLE GDP BLEND

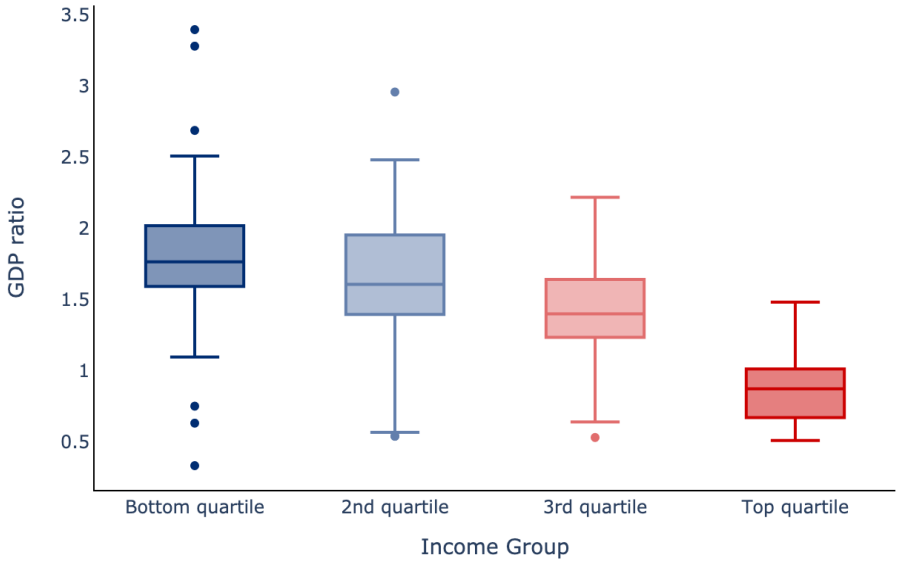
The *variable GDP Blend* is the most important of the formula, not only because its weight is the highest among all the variables (half of total), but also because, in past IMF quota reviews, members agreed that this should remain the most important variable with the possibility of increasing its weight in the future (IMF 2021). In addition, in past quota increases (e.g., 14th Review), ad hoc increases were based solely on GDP. However, the main issue with this variable lies in the weights assigned to GDP PPP and GDP MER since different combinations of these have different distributional impacts on AEs and EMDEs.

For 142 of the 190 IMF members, the ratio of GDP PPP to GDP MER is greater than 1, meaning that their measure of GDP at PPP is larger than at MER prices.[11] This is mainly the case for low- and lower-middle countries and all EMDEs subgroups (see Figure 5, panels A and B). In only 25 percent of countries, the GDP MER is larger than the GDP PPP, and these are mainly upper-middle and high-income countries. One explanation for these differences is that GDP MER values non-tradable goods and services based on foreign exchange market rates, which are typically lower in low-income countries due to lower wages. In contrast, GDP PPP adjusts for these price differences by converting currencies to reflect the same purchasing power across countries, including the cost of non-tradable goods and services. GDP MER does not account for these differences, leading to an underestimation of EMDEs' production (Callen 2007). Furthermore, market rates are more volatile over time than PPP exchange rates and using them can produce large swings in growth measures even when the real growth rate of a country is stable (Callen 2007). For instance, foreign exchange rates in EMDEs are more prone to suffer from external shocks and global crises – such as taper tantrum, COVID-19, natural shocks and Russia's war in Ukraine – than the AEs foreign exchange rates, which will, in turn, negatively affect the measurement of EMDEs GDP MER.

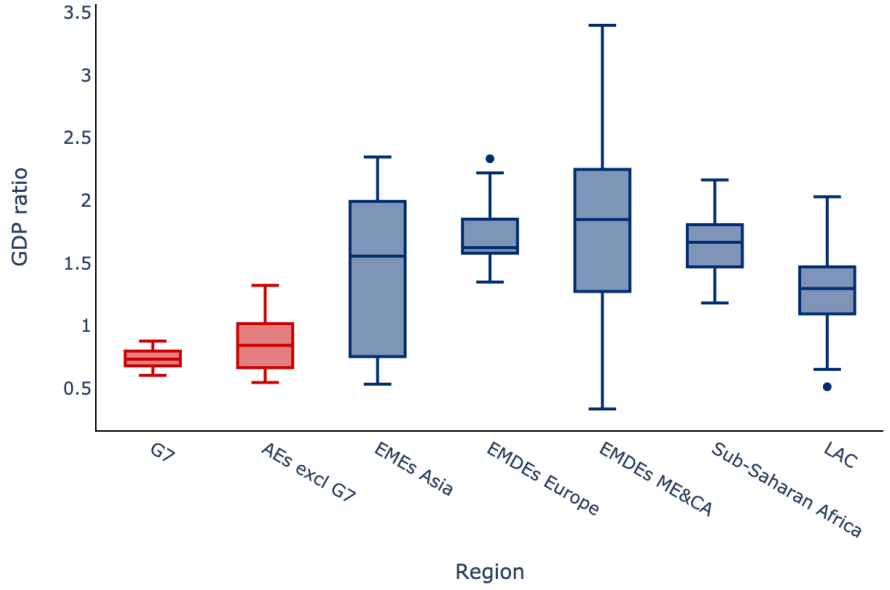
[11] Hence, the mean and median of the distribution are positive (1.42 and 1.44, respectively). The statistical measure of skewness is very low.

Figure 5: Country Ratio of PPP GDP to MER GDP

Panel A: Distribution by income group



Panel B: Distribution by region



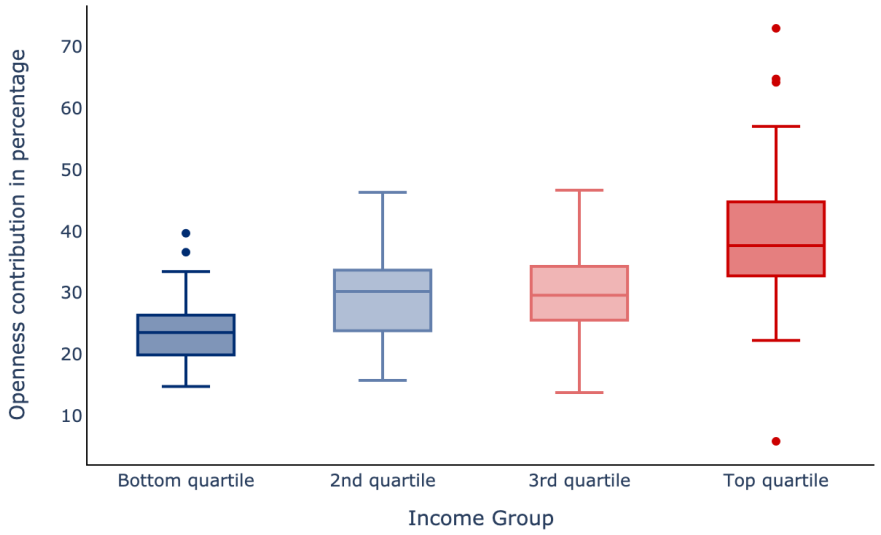
Note: For the ratio, the same criteria are applied as the formula (3-year average 2022, 2021 and 2020).
Source: Authors' calculations based on IMF and World Bank Group data.

VARIABLE OPENNESS

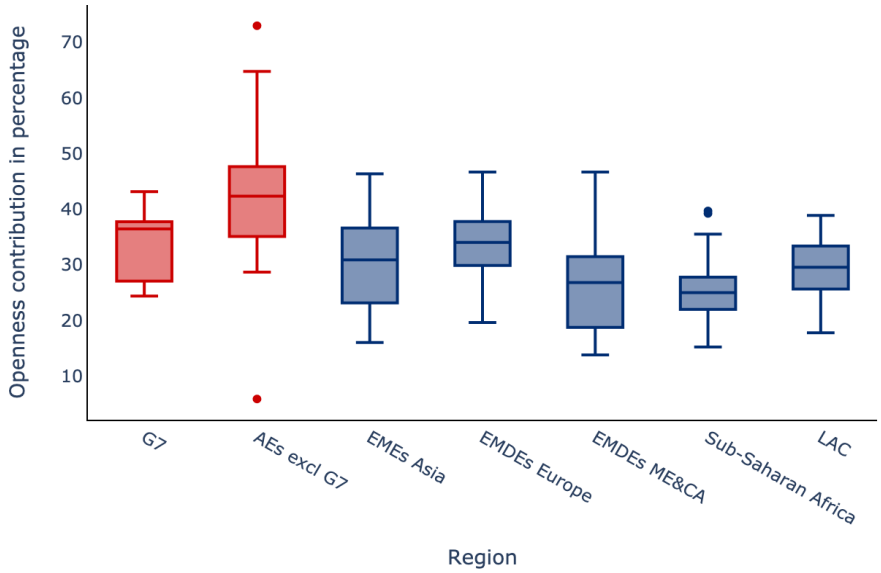
In terms of the *variable openness*, the top 10 countries in the distribution account for 54 percent of global shares in this variable. All but China, which holds the second-largest share, are high-income nations. Distinct from the variable of GDP PPP, openness contributes more to the quotas of high-income economies and some smaller economies. For instance, 70 percent of the CQS of Luxemburg is explained by openness and only 5 percent by GDP. Similarly, in the case of Ireland and Malta, more than 60 percent of their CQS is explained by openness.

Figure 6: The Contribution of Variable "Openness" to Countries' CQS

Panel A: Distribution by Income Groups



Panel B: Distribution by Regions



Source: Authors' calculations based on IMF and World Bank Group data.

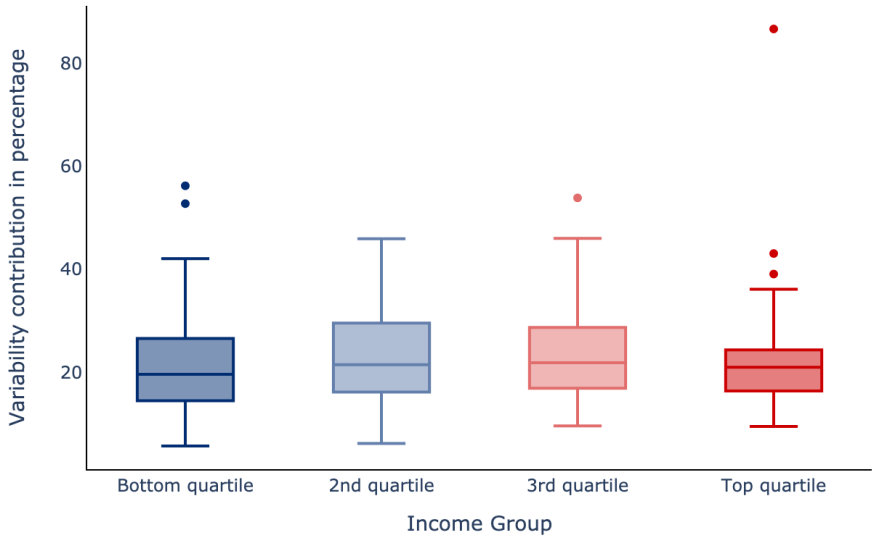
Openness contributions have proven to be significantly higher for several economies due to their high level of economic openness relative to GDP (IMF 2021). Therefore, members have expressed concerns about this. One of the main issues is the measurement of this variable and the double counting of cross-border flows that create distortions. The measurement is based on gross flows, implying an overrepresentation of trade in goods and services of some countries (e.g., particularly for those in the Euro Area). The IMF tried to address these flaws and proposed several alternatives to overcome them (e.g., excluding EU commercial intra-flows in its measurement, proposing a cap for this variable, and reducing its weight) but none of them were implemented in previous revisions of the IMF quota formula.

VARIABILITY

Variability, a related variable to openness, was introduced as a proxy for countries' vulnerability to balance of payments shocks and potential demand for funds. This implies that variability should aim to favor EMDEs, particularly low-income countries that are more vulnerable to balance of payments shocks and are more in need of IMF resources (Lwere, Floyd and Ryder 2024). However, earlier studies (IMF 2013, 2014) found no evidence linking variability to such demand or vulnerabilities. Instead, variability is highly concentrated in AEs – which hold 53 percent of the variable, while EMDEs excluding China hold 34 percent. Its concentration also increases by income – higher income levels are correlated with higher global shares of variability.[12] Among EMDEs, there is a greater dispersion than in AEs, and more than 78 percent of EMDEs hold 0.25 percent or less of this variable. However variability's contribution is higher than its weight for 77 percent of EMDE countries[13] and for EMDEs excluding China as an aggregate is 17.3 percent (exceeding variability's weight in the formula). Even when this is a different feature than for openness, variability strongly correlates with openness,[14] yielding similar results in share calculations (available at annex, Figure AI.8). This overlap exacerbates the issues associated with openness, leading to an overestimation of countries' CQS relative to their current GDP sizes (e.g., Iceland, with variability contributing 87 percent to its CQS).

Figure 7: The Contribution of Variable "Variability" to Countries' CQS

Panel A: Distribution by Income Group

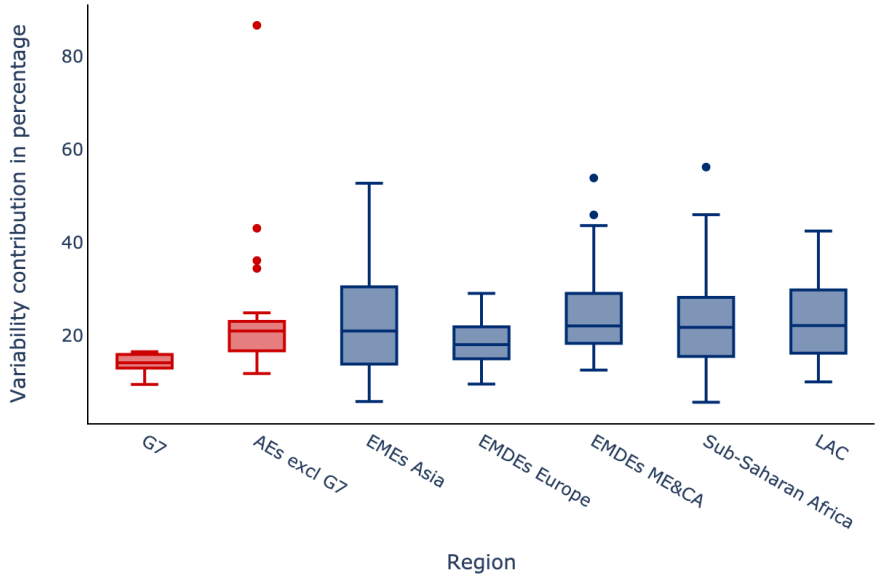


[12] The median of variability and its concentration increases by income group: for the bottom quartile of the income distribution the median is 0.03, for the 2nd quartile 0.07, for the 3rd quartile 0.12, and for the top quartile 0.62. In addition, the correlation between variability and GDP (blend) shares is relatively high (adjusted R-squared: 0.88).

[13] For 113 EMDEs out of 153, the Variability-to-GDP Blend ratio is greater than 1 and 98 when PPP GDP is considered. For openness, the ratio to GDP Blend is greater than one for 81 out of 153 EMDEs and only 67 when PPP GDP is considered. On the other hand, for AEs, 34 out of 37 have ratios of openness to GDP Blend greater than one and 33 for variability. When PPP GDP is considered, 36 out of 37 AEs have variability and openness ratios greater than one.

[14] Lineal model (OLS), adjusted R-squared of 0.94.

Panel B: Distribution by Region

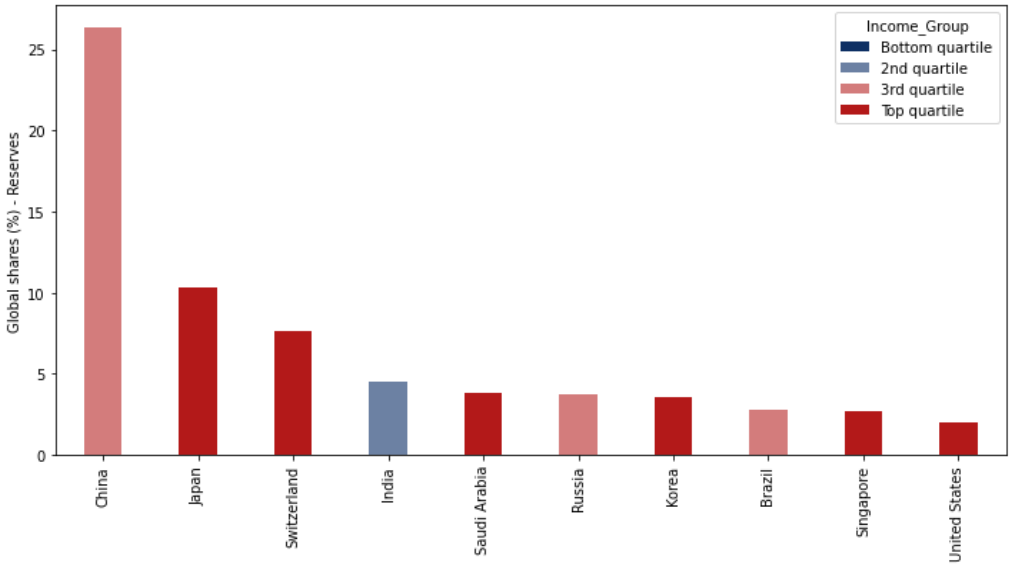


Source: Authors' calculations based on IMF and World Bank Group data.

RESERVES

Reserves present the opposite case of openness and variability. This variable benefits more EMDEs than AEs as these countries hold a higher portion of reserves. Figure 8 shows the top 10 countries in terms of global shares of reserves, which explains 67.5 percent of the world's holdings. Only China represents 26.4 percent of all reserves held by IMF members, followed by Japan (10.4 percent) and Switzerland (7.6 percent).

Figure 8: Top 10 Countries by Global Shares of Reserves



Source: Authors' calculations based on IMF and World Bank Group data.

COMPRESSION FACTOR

The *compression factor,* k, plays a significant role in IMF quota calculations. The IMF (2021) demonstrates that by including the compression factor (with k=0.95 in the current formula) the CQS of the largest eight members are reduced, while the CQS for the rest are increased. Then, the compression factor (k below 1) penalizes the largest economies in favor of the smaller ones. In terms of income groups, the IMF shows that countries at the bottom of the income distribution benefit more than high-income ones (the majority of countries in the bottom two quartiles of the per capita income distribution gained from its inclusion). Gonzalez (2022) further shows that altering k impacts the distribution spread but not the country ranking, suggesting adjustments to k could help achieve a more favorable CQS distribution for EMDEs and countries at the bottom of the income distribution (see Figure 10, Annex I).

POTENTIAL CHANGES TO THE CURRENT FORMULA

Proposals for Reform

In the context of the quota increase approved under the 16th GQR and the upcoming discussion on a possible new quota formula for the 17th GQR (June 2025), several papers and articles have emerged addressing the 2008 formula and its potential revisions (Nogueira Batista 2024; UN 2023; Coulibaly and Prasad 2023; Arauz et al. 2022; Gonzalez 2022). The IMF has already been engaged in these discussions, even before the latest quota increase, with various policy papers analyzing the formula's shortcomings (IMF 2011, 2013, 2014, 2016) and for the 15th GQR, the IMF Executive Board instructed the staff to conduct extensive simulations to address members' concerns about the formula and provide a basis for reform (IMF 2021).

Most proposals to reform the formula include *changing the relative weights of the existing variables*. For instance, some authors advocate for increasing the weight of GDP while decreasing the weights assigned to openness and variability. In this line, the IMF (e.g., IMF 2021 and 2016) and Gonzalez (2022) show different scenarios and CQS simulations by considering different combinations of weights for the variables of the current formula.[15]

Others suggest *redefining and altering the scope or measurement of variables included in the current formula*. For instance, adjusting the GDP blended variable to give more weight to GDP measured by PPP rather than MER, which – as shown in the section above – would be more beneficial for EMDEs. In addition, the IMF (2014), under the 14th GQR, analyzed the possibility of changing the measurement of openness to avoid double counting by using trade data on a value-added basis (OECD-WTO-TIVA estimates). Coulibaly and Dervis (2019), proposed to replace openness with a set of vulnerability indicators that capture financial and trade integration into the global economy. For variability, Lwere, Floyd, and Ryder (2024) proposed using the rate of SDR utilization in the past as a better proxy of members' potential need for Fund resources.

Other proposals consider the *elimination of variables of the formula* – mainly openness and variability – due to the shortcomings we previously explained. For instance, the IMF (2021, 2013, and 2014) has presented simulations of possible reforms of the quota formula, all of which included the elimination of *variability*. For the 12th GRQ (completed in 2003), a group

[15] They also include scenarios where variables are eliminated, and their weights are reallocated among the rest of the variables under different assumptions (e.g., the weight of the eliminated variables is evenly split between the rest of the variables or is all reallocated to GDP).

of outside experts examined the quota formula and proposed a simplified version, providing an economic rationale for the variables included. As a result, they recommended eliminating *openness* and *reserves* (Cooper and Truman 2007). Nogueira Batista Jr. (2024) suggested the elimination of both *openness* and *variability* to have a quota distribution that better reflects members' relative importance in the world economy. From our analysis above, it can be inferred that such changes will likely benefit EMDEs but will have a negative impact on AEs, particularly in Europe.

In addition, *including new variables to the quota formula have been suggested*. For example, incorporating CO^2 emissions as a variable to reflect climate-related considerations (Arauz et al. 2022). This change would benefit most EMDEs and could adversely impact major economies like the US and China. Furthermore, the UN (2023) and Bryant (2010) proposed to include a population variable in the formula to give another magnitude that accounts for size and improves countries' representation.

Finally, other proposals include an *adjustment to the compression factor* by reducing the k parameter in the quota formula. This would mainly affect the largest IMF members, reducing their calculated quotas. Gonzalez (2022) emphasizes the diverse impact such adjustments would have across different country groups, highlighting the importance of considering these distributional consequences in any reform effort.

Beyond changes in the IMF quota formula, and concerning voting power within the IMF, some suggest an increase in the level of basic votes (UN 2025; Woodward 2007; Batista 2024).

In light of various proposals for reforming the quota formula, as well as their feasibility — where more gradual changes are likely to gain broader acceptance – we develop different scenarios with different CQS as a result. We focus on adjusting the weights of existing variables (including reducing them to zero) and do not consider changes to variable measurements or definitions, the inclusion of new variables or adjustments to the time frame used for computing the variables. While we believe assessing these aspects is important, they fall beyond the scope of this report.

Scenario Setting

Each reform aims to accomplish certain objectives, and this report aims to analyze only those changes that will allow for getting closer to the objective outlined by IMF members at the 16th GQR "(…) *Any adjustment in quota shares would be expected to result in increases in the quota shares of dynamic economies in line with their relative positions in the world economy and hence likely in the share of emerging markets and developing countries as a whole, while protecting the voice and representation of the poorest members*" (IMF 2023). Hence, only changes to the formula that implied a potential improvement of EMDEs quota shares as a group were considered. Although our calculations did not result in the increase of every EMDE country share, we estimated scenarios that could maximize their quotas as a group, particularly when excluding China. Moreover, we were particularly interested in increasing quotas for those countries with the lowest per-capita income. Taking into account the analysis above, Table 3 summarizes our criteria and rationale to set the scenarios.

Table 3: Summary of Key Criteria for Scenario Setting

Variable adjusted	Rationale	Other Considerations
Openness (weight reduced or eliminated)	Measurement challenges create distortions in quota distribution. Its inclusion does not benefit EMDEs, particularly those with lower per capita GDP.	Past proposals for elimination (e.g., Cooper and Truman 2007)[16] were not supported by IMF members. The 15th GQR (IMF 2021) reaffirmed its importance, making elimination unlikely.
Variability (weight reduced or eliminated)	It fails to accurately measure vulnerability to balance of payments shocks and therefore potential needs of IMF funds. Its weight is concentrated among AEs, despite EMDEs' greater need for IMF support.	Although many individual EMDEs benefit from variability, the 15th GQR saw significant support for its removal. Its elimination can be more feasible than other reforms.
GDP PPP (weight increase)	A higher weight benefits EMDEs, particularly those with lower per capita GDP.	In past IMF quota reviews, members agreed GDP should remain the key variable, with a potential weight increase in the future (IMF 2021). The inclusion of GDP PPP in the 2008 reform will be reassessed in 2028 (as the Board agreed to review its inclusion after 20 years).
Reserves (eliminated)	It entails potential distortions associated with excess reserve accumulation and it benefit some EMDEs disproportionately (and not all of them).	Eliminating reserves offsets China's weight and prevents outcomes where China gains veto power (which will be politically unfeasible).
Compression Factor (increase)	Helps moderate the effects of quota changes on larger economies (e.g., China) and redistribute gains to smaller economies.	Increasing compression factor offsets China's weight and prevents China gaining veto power.

Source: Authors' compilation.

[16] Cooper and Truman (2007) argue that openness is a biased concept that has little to do with the role of the IMF, and the rationale for its inclusion in the formula is obscure. Even when they analyzed alternative measures for openness – e.g., value added in industry – they obtained no substantial result regarding changes to the quota distribution. They also mention that it is highly correlated with GDP, not adding additional information for differentiating among IMF members. In addition, GDP is more adequate since it is measured on a value-added basis vs openness that is measured on a gross value basis. Lastly, it is mentioned that openness is not positively correlated with the probability that a country will experience severe external financial problems.

Analysis of Scenarios

We analyzed over 17 different scenarios, which are presented in detailed in Annex II. From the 17 options considered, we ruled out scenarios that lacked political feasibility—specifically, those where incumbent groups lost veto power or perceived contenders gained it—given the likelihood of rejection by veto-holding members. Specifically, scenarios that eliminated both variability and openness led China gaining veto power,[17] making these changes unlikely to be approved. This was also the case for scenarios that only eliminated variability. These outcomes were consistent across all combinations of GDP PPP and MER weights, as the difference between these two measures for China is relatively small (GDP MER 18.3 percent versus GDP PPP 19.1 percent). Then, any increase in GDP's weight[18] in the formula ends with a large impact on China's voting power due to the gap between its current AQS (6.4 percent) and its economic size. Across all 17 scenarios analyzed or under the current formula, China's voting power ends more than doubling its current level.

Given the importance of increasing the voice of EMDEs beyond China, we examined whether the results improve representation not only for EMDEs as a whole (including China) but also for EMDEs excluding China relative to their current AQS and CQS. In addition, the paper also aims to improve the representation of countries at the lower end of the income distribution. The criteria followed to ensure this was considering each group as an aggregate and the number of countries that gain from the proposed change in each scenario. Table 4 presents the results of the four politically feasible scenarios that align with the goal of maximizing EMDEs' collective voice (excluding China) and particularly benefiting those at the lower end of the income distribution.

[17] The veto power of China remains even when considering basic votes in the computation of the final voting power (with 5.502 percent current percentage or with an increased percentage of 9 percent). If an increased percentage of basic votes is considered beyond 9 percent, to guarantee that China ends with a voting power below 15 percent, then AE Euro Area loses its veto power (their aggregate voting power falls under 15 percent as well). In scenario 7 (table AII.1), this was also the case for the US.

[18] While the weight of eliminated variables could be redistributed to non-GDP variables, this will result (in some cases) in reserves having the same weight as GDP or increasing the weight of openness despite its significant measurement challenges. Hence, when eliminating a variable, we only considered redistributing its weight proportionally to the remaining variables (given their original weights in the formula) or allocating this weight entirely to GDP Blend.

Table 4: IMF Quota Formula Reform Scenarios: Adjustments to Variable Weights and Compression Factor

Scenario	Description	GDP Blend	*GDP MER*	*GDP PPP*	Openness	Variability	Reserves	Compression factor (k)
0	Current Formula	0.5	*0.3*	*0.2*	0.3	0.15	0.05	0.95
A	• Elimination of variability and reserves • All weight of variability and reserves to GDP Blend • Increased weight of PPP-based GDP in the blended GDP measure from 40 percent to 60 percent • Lower weight of openness (from 0.3 to 0.25) • Higher degree of compression (from 0.95 to 0.925)	0.75	*0.3*	*0.45*	0.25	0	0	0.925
B	• Elimination of variability and reserves • All weight of variability and reserves to GDP Blend • Increased weight of PPP-based GDP in the blended GDP measure from 40 percent to 60 percent • Lower weight of openness (from 0.3 to 0.15) • Higher degree of compression (from 0.95 to 0.9)	0.85	*0.34*	*0.51*	0.15	0	0	0.9
C	• Elimination of variability and reserves • All weight of variability and reserves to GDP Blend • Increased weight of PPP-based GDP in the blended GDP measure from 40 percent to 50 percent • Lower weight of openness (from 0.3 to 0.15) • Higher degree of compression (from 0.95 to 0.905)	0.85	*0.43*	*0.43*	0.15	0	0	0.905
D	- Elimination of openness and reserves - All weight of openness and reserves to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40 percent to 45 percent - Higher degree of compression (k from 0.95 to 0.903)	0.85	*0.47*	*0.38*	0	0.15	0	0.903

Source: Authors' compilation.

Across all scenarios in Table 4, reserves were eliminated, and variability was removed except in Scenario D. Openness was reduced in all cases except Scenario D, where it was eliminated. Increasing GDP weight—especially GDP PPP —was key to boosting EMDEs' voting power. The PPP-MER GDP mix does not affect China's voting power but emphasizing GDP PPP benefits the rest of EMDEs. Notably, EMDE Asia's GDP (excluding China) doubles under PPP compared to MER, driven by India and Indonesia. A similar pattern holds for EMDE Europe, led by Russia and Turkey. While GDP PPP remains more favorable for EMDEs in the Middle East & Central Asia, sub-Saharan Africa, and Latin America and the Caribbean, their global shares— even considering just GDP PPP—remain below current AQS, meaning GDP-based realignment would reduce their voting power (as an aggregate). This is the reason why, for almost all 17 scenarios considered, these groups of countries present, in general, a lower voting power in comparison to their AQS (however, higher in comparison to the CQS under the current formula). Maximizing gains for all EMDE regional groups resulted in scenarios where China would gain veto power, while the US, and Euro Area with UK (as a group) would lose theirs (see Annex II, Scenario 6).[19] Finally, all scenarios presented a higher compression factor, from the current 0.95 to up to 0.9 in scenario B. This is a key change to preventing China from gaining veto power and for compensating smaller and more vulnerable economies.

Tables 5 and 6 present the resulting CQS distributions by region and income group for the four scenarios (also, Tables AII.4 and AII.5 present the number of winers and losers for each scenario by region and income group). In all scenarios, the underrepresentation of EMDEs and countries at the lower end of the income distribution is addressed, but scenario B and D have better outcomes. In Scenario B, the voting weight is maximized for both EMDEs (excluding China) as a group and those at the lower end of the income distribution. Under scenario B, EMDEs (excluding China) reaches collectively an CQS of 36.95 percent from an AQS of 32.04 percent while countries at the lower end of the income distribution CQS increases to 3.98 percent from an AQS of 3.44. However, under this scenario, the EMDEs countries of Latin America and the Caribbean and Sub-Saharan Africa end with a lower voting power.

Scenario D provides similar outcomes, with EMDEs (excluding China) reaching 36.2 percent of quotas with better distribution of gains among individual countries[20]. In other words, scenario D maximized the number of "winning" individual countries (gain above 0.01), including countries at the bottom of the income distribution. When China is considered, scenario D increases EMDEs quota to 51.03 percent while scenario B to 51.66 percent.

Scenario D demonstrates that the current formula can be improved by eliminating openness and reserves, increasing the importance of GDP blend and GDP PPP, and increasing the compression factor relative to the current formula. It must be noted, however, that **scenario B could gain broader support than scenario D** since it is more likely that members agree with the elimination of variability than openness.

[19] This scenario maximized the quota increase for EMDEs, EMDEs excluding China, and those countries at the bottom of the income distribution (bottom quartile and 2nd quartile) as aggregates. At the same time, this was the only case in which each EMDE subgroup ended with a larger quota share in comparison to its AQS. When considering maximizing the number of winners (those with quota shares gains above 0.01) together with minimizing the number of losers (losses below 0.01) of EMDEs (Table AII. 4 in the Annex), Scenario 16th is the best scenario but an unfeasible one. This is also true for countries at the lower end of the income distribution (see AII.5). In all these cases, openness is eliminated.

[20] When considering an objective function such as *the number of EMDEs winning countries* (gain above 0.01) *minus the number of EMDEs losers' countries* (absolute losses above 0.01), Scenario D is the one that maximizes that function.

Table 5: Results by Region

By Region	Current CQS	AQS	CQS Scenario A	CQS Scenario B	CQS Scenario C	CQS Scenario D
Advanced Economies	**53.60**	**61.56**	**50.29**	**48.34**	**49.79**	**48.97**
US	14.78	17.43	15.39	15.15	15.98	15.87
Euro Area and UK	22.07	26.48	20.56	19.29	19.57	18.60
Japan	4.34	6.47	3.99	4.00	4.13	4.18
Others	12.41	11.19	10.35	9.91	10.12	10.32
Emerging Markets and Developing Economies	**46.40**	**38.44**	**49.71**	**51.66**	**50.21**	**51.03**
China	14.61	6.40	14.83	14.71	14.84	14.82
Asia excl. China	9.05	6.58	10.78	11.33	10.74	10.47
Europe	6.45	6.41	6.86	7.13	6.82	6.94
Middle East & Central Asia	7.11	7.61	7.18	7.65	7.32	7.87
Sub-Saharan Africa	2.72	3.53	3.11	3.48	3.31	3.55
Latin America and the Caribbean	6.46	7.92	6.94	7.37	7.17	7.38
Emerging Markets and Developing Economies (excluding China)	**31.79**	**32.04**	**34.88**	**36.95**	**35.36**	**36.20**
Other groupings						
G7	34.04	43.43	33.70	32.85	34.11	33.59
European Union	22.80	26.19	21.31	20.10	20.26	19.17
G24 excl. China	13.46	14.31	15.91	17.02	16.27	16.41
BRICS	23.10	14.82	24.65	25.03	24.71	24.80
V20	5.41	5.05	6.37	6.99	6.62	6.69

Note: Regions are categorized according to the 2024 WEO classification, with two exceptions: (1) the Euro Area and the UK are grouped together due to their aligned position, and (2) China is excluded from the EMDEs Asia group. Regarding *other groupings*, G24 excludes China for analytical purposes and BRICS is considered the five founding members.

Source: Authors' calculations based on IMF data.

Table 6: Results by Income Distribution

By Income	Current CQS	AQS	CQS Scenario A	CQS Scenario B	CQS Scenario C	CQS Scenario D
Bottom Quartile	2.85	3.44	3.51	3.98	3.76	3.97
2nd Quartile	10.72	9.61	12.92	13.83	13.07	13.07
3rd Quartile	29.67	21.98	30.67	31.25	30.80	31.16
Top Quartile	56.76	64.97	52.90	50.94	52.37	51.81

Note: Income groups were defined according to the 3-year average of GDP per capita at current US dollars (years included 2023, 2022 and 2019; it excludes years particularly affected by COVID-19, i.e., 2020 and 2021). This was done using the 2024 WEO database complemented by the WBG database for countries with missing data.

Source: Authors' calculations based on IMF and World Bank Group data.

After calculating the CQSs required to achieve our proposed goals, we estimated the potential voting power of country groups by incorporating basic votes (currently corresponding to 5.5 percent of total voting shares). It is important to make a caveat in this exercise: quota formulas are typically applied only to newly allocated quotas, rather than redistributing existing ones (referred to the "selective allocation"). Therefore, the impact of changes in the quota formula on voting power depends not only on the agreed formula but also on the size of any future quota increase.

However, in this exercise, we assume that IMF members would use the new formula to realign the entire quota (e.g., through an "ad hoc" allocation for underrepresented members, rebalancing the quota and voting system towards to the new formula). While this is purely a theoretical exercise, it provides insights into the potential impact of the new formula on voting distribution.

Considering the new formulas suggested in Table 4, in many cases, adding basic votes would result in the US losing its veto power, making the reform unlikely to be approved. However, Scenario D aligns with the political feasibility conditions outlined in this paper. Table 7 presents the final results. Under this scenario, EMDEs as a group would gain 11.89 p.p. of voting power, with 7.96 p.p. allocated to China. All EMDEs regional groups, except Latin America and the Caribbean—which lose 0.52 p.p.—experience an aggregate increase in voting power. However, the gain for sub-Saharan Africa is minimal, at just 0.02 p.p.

In terms of political groups, most of the losses among AEs are concentrated in the G7, which sees a decline of 9.3 p.p., and the European Union sees a decline of 6.63 p.p. The G24 (excluding China) gains 1.98 p.p., while the BRICS gains 9.43 p.p., largely driven by China. The Vulnerable Group of 20 (V20) – a coalition of climate vulnerable countries – gains 1.55 p.p.

Table 7: Final Results Considering Basic Votes

By Region	I) Current: AQS + basic votes 5.5%	II) CQS Scenario D + basic votes 5.5%	Difference p.p.(II) - (I)
Advanced Economies	**59.24**	**47.35**	**-11.89**
US	16.50	15.03	-1.47
Euro Area and UK	25.63	18.19	-7.44
Japan	6.14	3.98	-2.17
Others	10.98	10.16	-0.82
Emerging Markets and Developing Economies	**40.76**	**52.65**	**11.89**
China	6.08	14.04	7.96
Asia excl. China	7.05	10.73	3.68
Europe	6.49	7.00	0.51
Middle East & Central Asia	8.09	8.34	0.25
Sub-Saharan Africa	4.64	4.65	0.02
Latin America and the Caribbean	8.41	7.90	-0.52
Emerging Markets and Developing Economies (excluding China)	**34.68**	**38.61**	**3.93**
Other groupings			
G7	41.24	31.94	-9.30
European Union	25.53	18.90	-6.63
G24 excl. China	14.34	16.32	1.98
BRICS	14.15	23.58	9.43
V20	6.77	8.32	1.55

Source: Authors' calculations based on IMF data.

Given recent calls to increase basic votes in voting power calculations (UN 2023; UN 2025; Nogueira Batista Jr. 2024), we estimated additional scenarios (Table 8) incorporating higher basic votes. Increasing basic votes has a similar effect to the compression factor in reducing voting dispersion. In Table 8, column I presents the voting shares after the 16th GQR (with 5.5 percent basic votes), while columns II and III show the voting shares if basic votes were doubled to 11 percent or further increased to 14.3 percent. These basic vote shares in this exercise are not arbitrary: the 11 percent share is similar to the IMF's founding structure, while the 14.3 percent share is the highest possible that maintains US veto power, though it remains below the historical maximum of 16 percent for basic vote shares.

By maintaining the current IMF quota formula and increasing basic votes, EMDEs (excluding China) could achieve 37.32 percent and 38.9 percent of the total voting power under scenarios where basic votes are increased to 11 percent and 14.3 percent, respectively — similar to the voting power in scenarios with the quota formula which could reach up to 38.91 percent for this group of countries (table 7). Another advantage of a basic vote increase is that all EMDE regional groups would gain voting power. This contrasts with the quota reform scenarios proposed in Table 6, where the shares of the Latin America and the Caribbean would slightly decline and those of Sub-Saharan Africa would remain stagnant.

Table 8: Current Formula Increasing Basic Votes

By Region	I) Current: AQS + basic votes 5.5%	II) AQS + basic votes 11%	Difference p.p.(II) - (I)	III) AQS + basic votes 14.3%	Difference p.p.(III) - (I)
Advanced Economies	**59.24**	**56.93**	**-2.31**	**55.54**	**-3.70**
US	16.50	15.57	-0.93	15.01	-1.49
Euro Area and UK	25.63	24.78	-0.85	24.27	-1.36
Japan	6.14	5.82	-0.33	5.62	-0.52
Others	10.98	10.77	-0.21	10.64	-0.34
Emerging Markets and Developing Economies	**40.76**	**43.07**	**2.31**	**44.46**	**3.70**
China	6.08	5.75	-0.32	5.56	-0.52
Asia excl. China	7.05	7.53	0.48	7.82	0.76
Europe	6.49	6.57	0.08	6.62	0.13
Middle East & Central Asia	8.09	8.57	0.48	8.86	0.77
Sub-Saharan Africa	4.64	5.74	1.11	6.41	1.77
Latin America and the Caribbean	8.41	8.90	0.49	9.20	0.78
Emerging Markets and Developing Economies (excluding China)	**34.68**	**37.32**	**2.64**	**38.90**	**4.22**
Other groupings					
G7	41.24	39.06	-2.19	37.75	-3.50
European Union	25.53	24.87	-0.66	24.48	-1.05
G24 excl. China	14.34	14.36	0.02	14.37	0.04
BRICS	14.15	13.48	-0.67	13.08	-1.07
V20	6.77	8.48	1.72	9.52	2.75

Note: Regions are categorized according to the 2024 WEO classification, with two exceptions: (1) the Euro Area and the UK are grouped together due to their aligned position, and (2) China is excluded from the EMDEs. Each IMF member's votes are comprised of basic votes plus one additional vote for each SDR 100,000 of the AQS. The 2008 reform fixed the number of basic votes at 5.502 percent of total votes. The computation of the current voting power (I) was done considering the AQS in SDR terms published by the IMF (one for each SDR 100,000), then adding current basic votes, and dividing by the final sum to obtain each member's final voting power.

Source: Authors' calculations based on IMF data.

However, an increase of basic votes would not only require an amendment to the Articles of Agreement (which demands high level of consensus with a 85 percent of approval at the Board of Governors), but relying solely on increasing basic votes would not address China's underrepresentation relative to its economic weights, as its voting power would decline from 6.08 percent to 5.75 percent or 5.56 percent depending on the scenario of increasing basic votes to 11 percent or 14.3 percent respectively. As a group, EMDEs would increase their voting power by 2.31 p.p. with a doubling of basic votes. This is less than the potential gain from changing the quota formula (up to 11.89 p.p., shown in Table 7). However, the gain would be mostly led by increase of China, gaining additional 7.96 percentual points)

Finally, in terms of political groups, Table 8 shows that the G7 would lose much fewer votes by agreeing to an increase in basic votes, with a loss of 2.19 percent following the doubling of basic votes. However, BRICS as a group would see a decline in their collective voting power. The V20 would gain slightly more voting power (1.72 percent from doubling basic votes) compared to the scenario of reforming quotas.

In our reform proposals, some EMDEs and subgroups will end up losing; however, the most vulnerable could be further compensated by other measures. For instance, in scenario D, even when considering basic votes, Latin America and the Caribbean as an aggregate end with a lower voting power from their AQS (-0.52 p.p.). One way to compensate them could be to safeguard from any reduction the shares of the poorest members within this subgroup and/or those EMDEs with a negative difference above 0.1 p.p. between AQS and the resulting CQS. Alternatively, *dilution limits* could be established to guarantee that their quota shares will not decrease by more than a given amount or percentage. In the past, both measures were implemented (14th Review), and the cost was defined as a share of the total quota increase that was allocated in an ad hoc manner, for instance, to protect the poorest countries against a decline in their quota shares (IMF 2021). Countries that will gain the most from a realignment could forgo some of the gains to compensate these other countries. To implement this, it is essential to define a criterion for selecting the 'protected' countries.[21]

Summary of Main Results

Tables 9 and 10 summarize the results of the different scenarios explored in this report, showing the distribution of quotas (Table 9) and voting power (Table 10) for various countries and regions.

As mentioned earlier, quota formulas typically apply only to newly allocated quotas, not redistributing existing ones, a process known as "selective allocation." Thus, the impact of changes to the formula on voting power depends not only on the formula but also on the size of any future quota increase. In this exercise, we assume IMF members would apply the new formula to realign the entire quota system, possibly through an "ad hoc" allocation to address underrepresentation and rebalance the quota and voting system. While theoretical, this scenario offers insights into the potential effects of the new formula on voting distribution during the 17th GQR.

As shown in Table 9, EMDEs (excluding China) currently hold 32.04 percent of IMF quotas. If the existing formula (agreed in 2008 and used in the 16th GQR) were updated with recent economic data and applied strictly, their share would decline slightly to 31.79 percent (Table 9, Column II), with all regions except Asia and EMDE Europe losing quota shares. Under the new, simplified formula, EMDEs (excluding China) share would instead rise to 36.20 percent (Table 9, Column III), though Latin America and the Caribbean would still see a decline.

A similar pattern emerges in voting power. Under the status quo, these economies hold 34.68 percent of total votes (Table 10, Column I). Applying the existing formula strictly would lead to a slight decline to 34.44 percent (Table 10, Column IV), with the same regions losing shares. However, under the new formula, their voting share would increase to 38.61 percent (Table 10, Column V). Moreover, if basic votes were doubled to 11 percent, voting power of EMDEs

[21] In the 14th Review, the countries protected were defined as those eligible for the Poverty Reduction and Growth Trust (PRGT) and whose per capita income fell below US$1,135 in 2008 (the threshold set by the International Development Association) or below twice the cut-off for countries meeting the definition of a "small country" under the PRGT eligibility criteria. At that moment, the countries covered included 53 members (IMF, 2021).

(excluding China) would rise to 37.32 percent (Table 10, Column II), and with an increase to 14.3 percent, it would reach 38.90 percent (Table 10, Column III).

However, this shift alone would come at China's expense. As Table 10 (Columns II and III) shows, in the most extreme scenario, China's voting power would decline to 5.56 percent from the current 6.08 percent—the only case in which it would lose representation. In contrast, applying the existing formula with updated economic variables (Table 9, Column II) would increase China's quota share significantly, from 6.4 percent to 14.61 percent, while the new simplified formula would raise it further to 14.82 percent.

Meanwhile, as shown in Table 9, the US currently holds 17.43 percent of IMF quotas. If the existing formula were applied strictly, its share would decline to 14.78 percent (Table 9, Column II). This would, in turn, reduce US voting power from 16.5 percent under the 16th GQR (Table 10, Column I) to 13.99 percent (Table 10, Column IV), effectively eliminating its veto power.

A different outcome would result from one of the new simplified formulas proposed in this report. In this scenario, the US would hold 15.87 percent of IMF quotas (Table 9, Column III), with a voting share of 15.03 percent (Table 10, Column V). If basic votes were doubled to 11 percent, US voting power would increase to 15.57 percent (Table 10, Column II), and it would also retain its veto power if basic votes rose to 14.3 percent of total shares.

Table 9: Summary: Quota Shares Under the Status Quo and Different Scenarios

		17th GQR (hypothetical scenarios)	
By Region	**(I) Status Quo (Under 16th GQR) (AQS)**	**(II) Adjusted to EXISTING formula w/ updated economic data (CQS)**	**(III) Using the NEW suggested formula**
Advanced Economies	61.56	53.60	48.97
US	17.43	14.78	15.87
Euro Area and UK	26.48	22.07	18.60
Japan	6.47	4.34	4.18
Others	11.19	12.41	10.32
Emerging Markets and Developing Economies	38.44	46.40	51.03
China	6.40	14.61	14.82
Asia excl. China	6.58	9.05	10.47
Europe	6.41	6.45	6.94
Middle East & Central Asia	7.61	7.11	7.87
Sub-Saharan Africa	3.53	2.72	3.55
Latin America and the Caribbean	7.92	6.46	7.38
Emerging Markets and Developing Economies excluding China	32.04	31.79	36.20

Note: This quota share distribution does not include basic votes. The "NEW suggested formula" in column III correspond to scenario D in our analysis QS= (0.85 GDP_blended+ 0.15 Variability) ^ 0.903Compression. Red = delineates a decrease compared to 16th GRQ shares (AQS) for EMDEs (and for AEs only when this implies losing veto power).

Source: Compiled by authors.

Table 10: Summary: Voting Power Under the Status Quo and Under Different Reform Scenarios

		17th QGR (hypothetical scenarios)			
	(I) Status Quo (Under 16th QGR)	(II) Increase Basic Votes	(III) Increase Basic Votes	(IV) Voting Power adjusted to EXISTING formula w/ updated economic data*	(V) Voting Power using the NEW suggested formula
Basic votes (share total votes)	**5.5%**	**11.0%**	**14.3%**	**5.5%**	**5.5%**
Advanced Economies	59.24	56.93	55.54	51.72	47.35
US	16.50	15.57	15.01	13.99	15.03
Euro Area and UK	25.63	24.78	24.27	21.47	18.19
Japan	6.14	5.82	5.62	4.13	3.98
Others	10.98	10.77	10.64	12.13	10.16
Emerging Markets and Developing Economies	40.76	43.07	44.46	48.28	52.65
China	6.08	5.75	5.56	13.84	14.04
Asia excl. China	7.05	7.53	7.82	9.39	10.73
Europe	6.49	6.57	6.62	6.53	7.00
Middle East & Central Asia	8.09	8.57	8.86	7.62	8.34
Sub-Saharan Africa	4.64	5.74	6.41	3.88	4.65
Latin America and the Caribbean	8.41	8.90	9.20	7.03	7.90
Emerging Markets and Developing Economies excluding China	34.68	37.32	38.90	34.44	38.61

Note: The "NEW suggested formula" in column V correspond to scenario D in our analysis QS= (0.85 GDP_blended+ 0.15 Variability) ˆ 0.903Compression. Red = delineates a decrease compared to 16th GRQ shares for EMDEs (and for AEs only when this implies losing veto power).

Source: Compiled by authors.

Any reform, whether through the quota formula or increasing basic votes, will result in some countries losing voting power. Therefore, it is important to implement mechanisms to protect the most vulnerable countries from losing representation. For example, EMDEs countries or those of the lowest income with a negative difference above 0.1 p.p. between AQS and CQS can be safeguarded by ensuring their quotas remain at least equal to their AQS or by setting dilution limits to prevent significant reductions. Additionally, the IMF and its Executive Board could explore reforms beyond quotas and basic votes to better represent EMDEs. Some of these reform ideas will be presented in the next section.

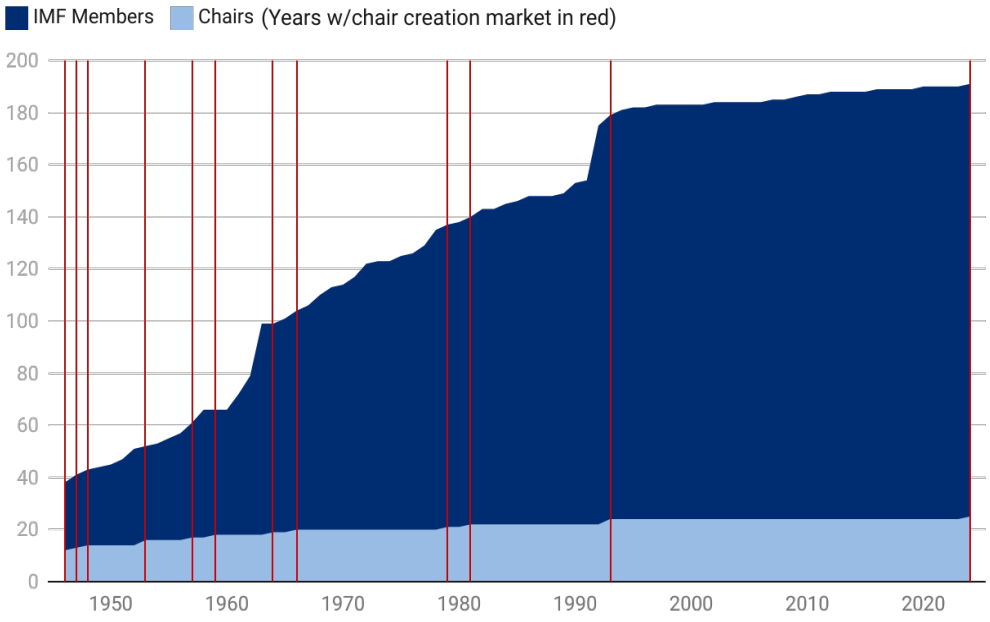
GIVING VOICE TO EMDEs: BEYOND THE FORMULA REFORM

Any quota realignment is controversial, as it alters how the IMF raises resources and allocates power, making quota debates central to the institution's legitimacy. Addressing this legitimacy challenge requires not only revising the quota formula but also pursuing broader governance reforms (Merling and Kring 2023). Beyond formula reform, the IMF could implement additional measures to amplify the voice of EMDEs, particularly to compensate those that do not gain from the 17th GQR. Some reforms, such as changes to the IMF Executive Board or reforming the selection process of IMF senior leadership, are easier and quicker to implement, while others, like separating the multiple roles of the formula, require greater political will.

The first proposed reform focuses on changes to the IMF Executive Board, which plays a central role in the IMF governance structure. It holds the power for conducting the IMF's business including assessing the debt sustainability prospects of a particular country or approving a lending program to a member in distress. In terms of decision hierarchy, the Executive Board is just below the Board of Governors, the IMF's supreme authority composed by the Ministers of Finance and Central Bank Governors of IMF members.

A key issue with the Executive Board, which has 25 chairs to represent all its 191 members, is the over-representation of AEs, in particular those from Europe. European Countries appoint or play a major role in the election of 10 of 25 of IMF Executive Directors, representing more than 42 percent of the Executive Board (Truman 2012). Conversely, EMDEs constituencies, including China, influence just 27 percent of the IMF Executive Board. In 2010, Europe was asked to cede two chairs in favor of EMDEs. However, these seats were instead transferred to EMDEs in Eastern Europe, effectively maintaining Europe's level of representation (Nogueira Batista Jr. and Wade 2024). Moreover, the IMF Executive Board has too few chairs relative to IMF membership. While the IMF Articles of Agreement originally set the number of chairs at 20, this threshold was surpassed in 1971. However, as Figure 9 shows, the increase in Executive Board chairs has lagged far behind the growth in IMF membership. Some progress was made during the 16th GQR, including the creation of a third chair for Africa on the IMF Executive Board, increasing the number of chairs from 24 to 25 (IMF 2024b). This new chair was created after a 31-year gap since the creation of the 24th chair. Most recently, Nogueira Batista Jr. (2024) proposed the addition of more chairs in the Executive Board for EMDEs and a recent paper by the UN (2023) recommended that the number of board members could be increased to about 52, which could preserve the country-to-chair proportion of the initial years of the IMF's founding. Although 52 may be seen as excessive, the IMF Executive Board should consider increasing seats beyond the 25th Africa new chair, finding a balance between increasing the voice of underrepresented countries while maintaining a number of chairs that is practical for decision-making.

Figure 9: IMF Membership and Number of Chairs in the Executive Board, 1946-2024



Source: Authors' elaboration based on IMF 1946, 1947, 1948, 1953, 1957, 1959, 1964, 1979, 1981, 1993, 2024b, and 2024c.

Finally, many EMDEs are in constituencies which also include AEs – and their relative voting power within these constituencies is diminished by the weighted voting system. For instance, the Caribbean countries are represented by a Canadian Director in a constituency overwhelmingly dominated by Canada and Ireland, while Kazakhstan, Belarus and Turkey are represented by a Belgian Director in a constituency dominated by EU members (Woodward 2007). By shifting the composition of chairs in the Executive Board, some EMDEs could be better represented.

Beyond reforming the IMF Executive Board, a second key governance reform would be ending the "gentlemen's agreement" established after World War II, which ensures that an American leads the World Bank, while a European serves as the IMF's Managing Director and a US citizen as the First Deputy Managing Director (Peretz 2008). This arrangement reflects an outdated historical compromise and, instead, the IMF should adopt an open and formal selection process for its senior leadership, considering geographical balance and greater inclusion of economists from diverse backgrounds. The deputy managing director positions have historically been held by representatives from Japan, China and EMDEs. Recently, Nogueira Batista Jr. and Wade (2024) proposed creating a fifth deputy managing director position to include a representative from a low-income country while reserving the existing post for a middle-income country.

A third, and more ambitious, policy reform in favor of EMDEs is separating the multiple roles of quotas. As long as each country's share of votes is equal to its share of total financial contributions, a democratic basis for decision-making will result in the Fund being inadequately financed, because all members' contributions will be constrained by the financial capacity of the poorest members. Woodward (2007) finds that, in order to democratize decision making at the IMF, a separation of the three roles which quotas now perform is needed. In this same vein, Coulibaly and Prasad (2023) suggest making the Fund a more legitimate institution by delinking quotas and resource contributions from lending. The UN Common Agenda – an

initiative presented by UN Secretary-General António Guterres – advises to use voting power derived from quotas only to vote on institutional or policy reforms but to differentiate quotas from access to IMF borrowing and allocations of SDRs (UN 2023). That should be determined by a measure of income and vulnerability (the latter calculated through a multi-dimensional vulnerability index or "beyond GDP" indicators).

To achieve meaningful IMF reforms—including changes to the quota formula and governance—international coordination is essential. While final decisions rest with the IMF Board, EMDEs should leverage the G20 and the UN to build consensus. The UN offers a more democratic forum for deliberation and recent discussion on the Fourth UN Financing for Development Conference (FfD4) has touched upon the IMF governance and operational reform (UN 2025), but IMF reform has historically gained traction in the G20, where Finance Ministers and Central Bank Governors which are the actual Governors to the institution regularly convene to address political and technical challenges of international financial architecture reform. The G20 played a crucial role in the 2008–2010 voice and representation reforms (G20 2009), and under Brazil's presidency, it has committed to advancing IMF quota realignment efforts (G20 2024b), with discussions set to continue under South Africa's leadership.

To navigate this difficult path, an interesting solution could be to gather a group of experts, as it was done in 2000 with the expert group led by Richard Cooper in the 2000s (IMF 2000). The Cooper Group recommended a series of modifications to the formula. While this proposal did not get traction, the Board, as a result of their work, reached an agreement on principles, including that the formula should be simpler and transparent (Truman 2012).

CONCLUSIONS

This year marks the 15th anniversary of the last changes to the IMF quota formula. Since the Bretton Woods Agreement, the formula has been revised only three times (1962–63, 1983 and 2008). The quota formula serves as a guideline for quota realignment, though ad hoc or equiproportional adjustments have often been the primary mechanism for distributing quota increases.

Quota realignments have failed to reflect the growth trajectories of EMDEs, leading to persistent underrepresentation, which, according to the G24 (2024), "undermine[s] the organization's legitimacy and credibility." Despite accounting for 60 percent of global GDP, EMDE should only 40 percent of IMF voting power. The 16th GQR, concluded in December 2023, did not address this imbalance, maintaining the existing quota distribution.

In 2024, members of the IMFC acknowledged *"the urgency and importance of realignment in quota shares to better reflect members' relative positions in the world economy, while protecting the quota shares of the poorest members."* The year 2025 presents a window of opportunity as the IMF undertakes its 17th GQR, beginning with the development of options, including a new quota formula, by June 2025.

This report examines options for the 17th GQR to better align IMF quotas with EMDEs' growing role in the global economy while balancing political feasibility. Given the high approval threshold, any reform must navigate the veto power of the US and Europe. Drawing on the 2008 quota formula and historical precedents, the analysis explores politically viable realignment scenarios, including adjustments to IMF basic votes and broader governance reforms. It also considers measures to enhance the legitimacy of the IMF, such as leadership selection reforms and compensatory mechanisms for countries facing quota reductions.

The report finds that the variables used in the IMF formula create a bias toward advanced economies. For example, measuring GDP at MER rather than PPP undervalues EMDEs' weight in the global economy. Additionally, the openness variable double-counts cross-border flows, further skewing results in favor of advanced economies.

The report argues that the current formula is not the best guide for quota realignment under the 17th GQR. If the entire quota distribution were realigned strictly according to the current IMF formula (which is not typically the case but highlights some of its flaws), many EMDE regions (excluding China) would lose quotas rather than gain. From a political perspective, the US would lose its veto power, and China's weight would be very close to that of the US.

Another way to address voting asymmetries would be to increase basic votes, which would boost the voting power of all EMDEs as an aggregate. However, this approach alone would come at China's expense, making it politically unfeasible. This highlights the need to combine an increase in basic votes with other measures to correct China's misalignment in quotas, such as a quota adjustment that increases China's weight, either through a new formula or an ad hoc quota increase.

For these reasons, this report recommends policy changes aimed at enhancing the voice and representation of EMDEs, particularly those at the bottom of the income distribution. A simplified and revised IMF quota formula should prioritize GDP and better reflect EMDEs' role in the global economy, with an emphasis on GDP PPP. This, along with the proposed increase in basic votes and additional quota adjustments for China and other EMDEs, will help realign

voting power more equitably while maintaining political feasibility. In addition, mechanisms to compensate the poorest EMDEs (like protecting their shares) and ensure their representation (increasing chairs in Executive Board of underrepresented groups) must be implemented to prevent further marginalization.

In addition to formula-based reforms, governance and voice-related reforms must also be prioritized. These include addressing the composition of the Executive Board, improving the selection process of IMF senior leadership, and as a more ambitious policy goal, achieving a complete separation of voting weights from access to IMF resources.

Finally, further delays in addressing EMDEs' representation at the IMF could undermine the institution's legitimacy and credibility at a time when global economic stability is critically needed. The debate over quota realignment is part of a broader conversation about the IMF's role in the international financial architecture, and it is essential that reforms are implemented to ensure that the IMF remains relevant and effective in the evolving global economy.

Shanghai, China. Photo by Declan Sun via Unsplash.

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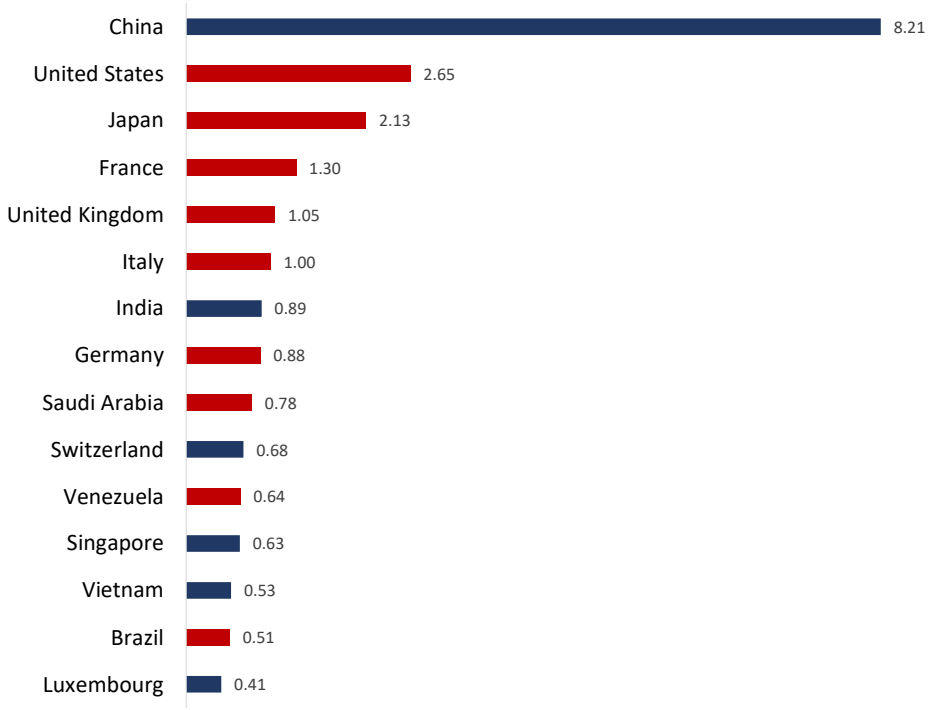
ANNEX I: ADDITIONAL ANALYSIS OF THE QUOTA FORMULA AND ITS VARIABLES

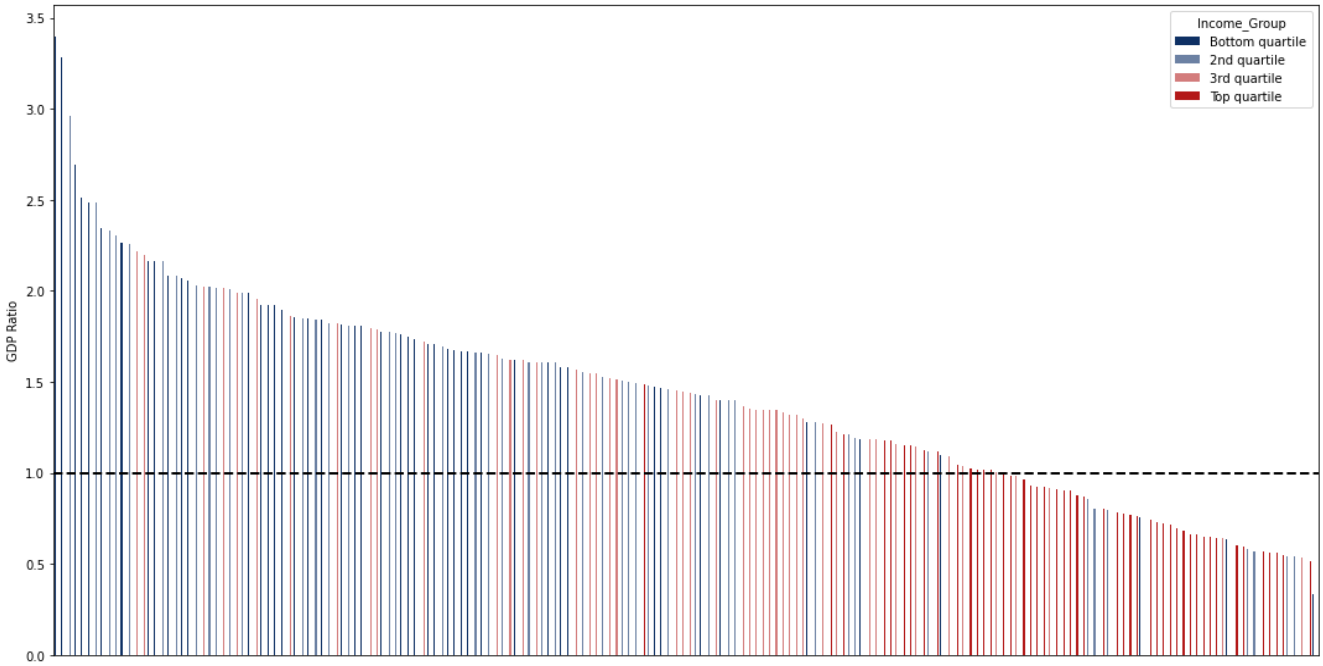
Figure AI.1: Countries Participation in the Total of OOL (in percentage)



Note: The colors refer to countries underrepresented (green) and overrepresented (red).

Source: Authors' calculation based on IMF (2022 and 2024).

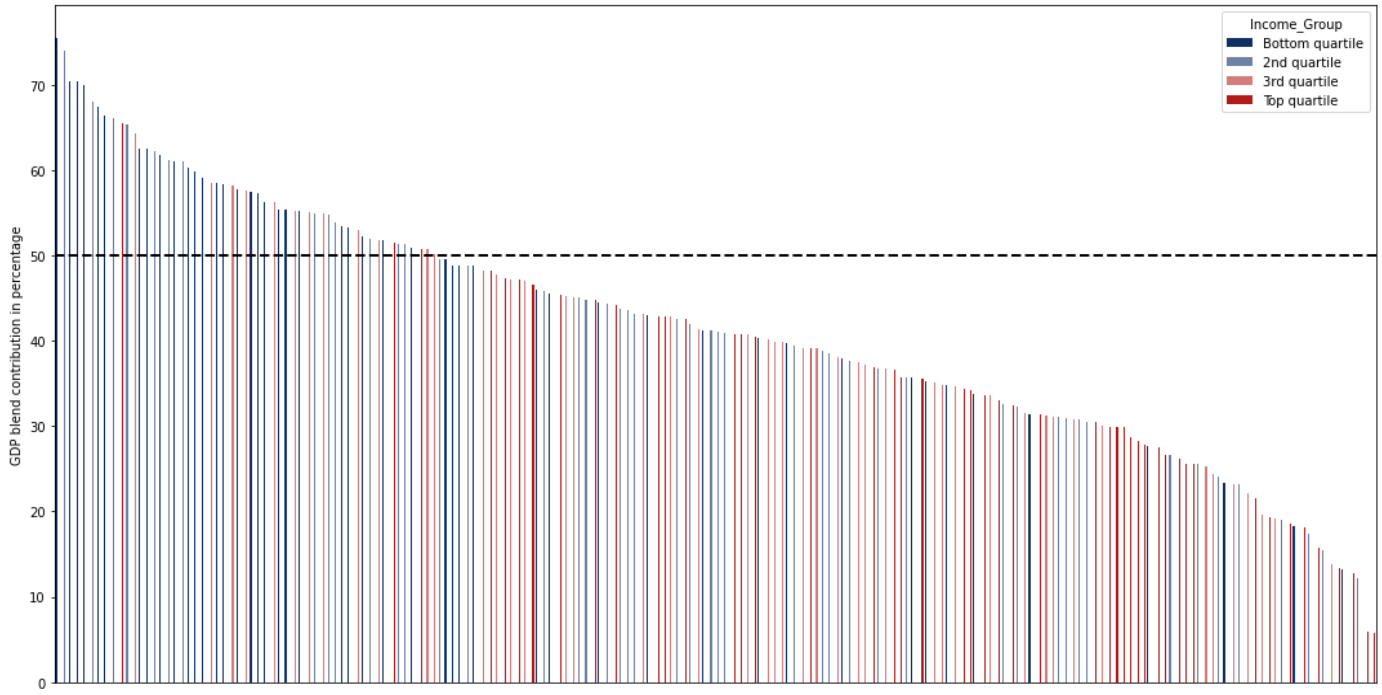
Figure AI.2: Ratio of PPP GDP to Market GDP by Country



Note: For the ratio, the same criteria are applied as the formula (3-year average).

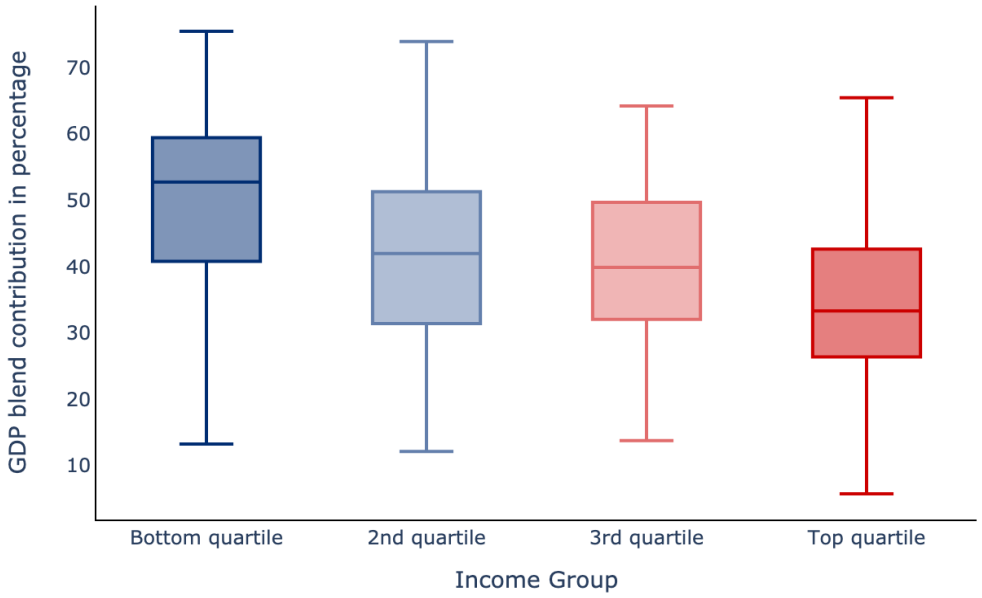
Source: Authors' calculations based on IMF and WBG data.

Figure AI.3: GDP Blend Contribution by Country



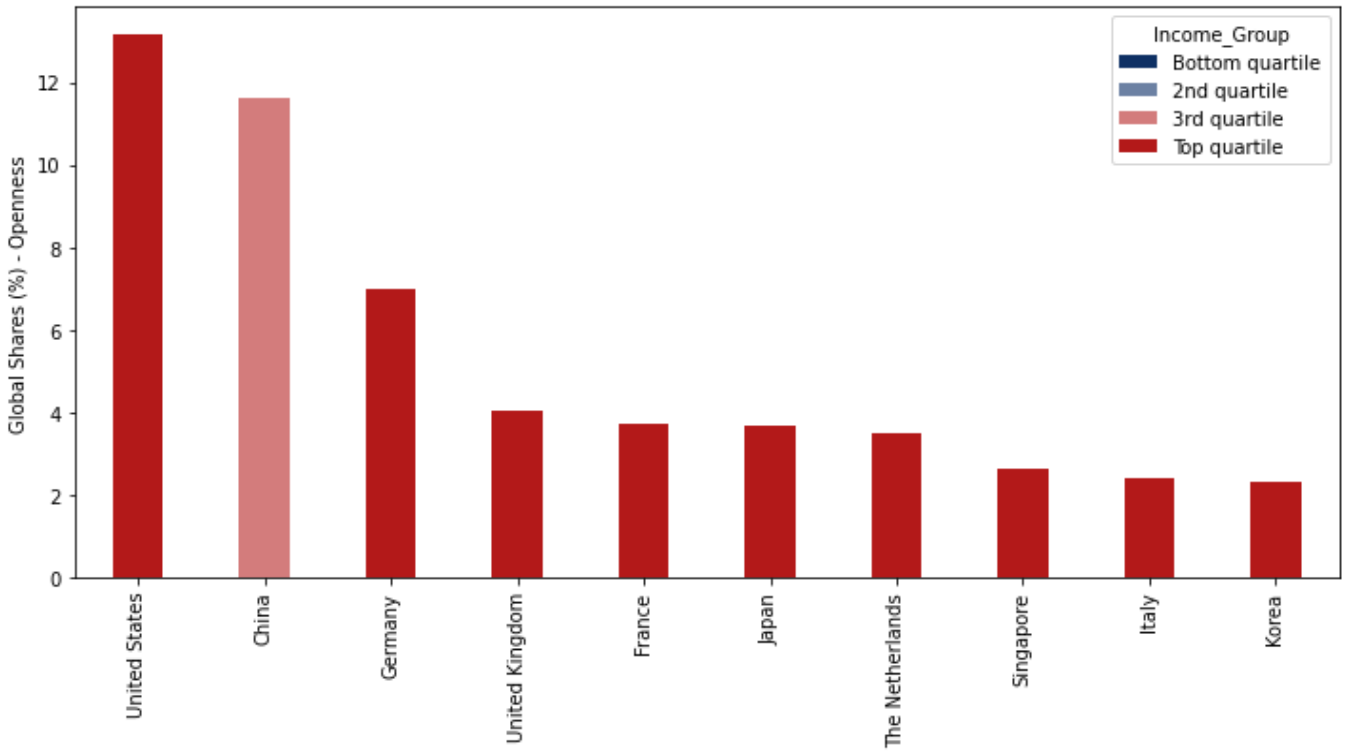
Source: Authors' calculations based on IMF and World Bank Group data.

Figure AI.4: GDP Blend Contribution by Income Group



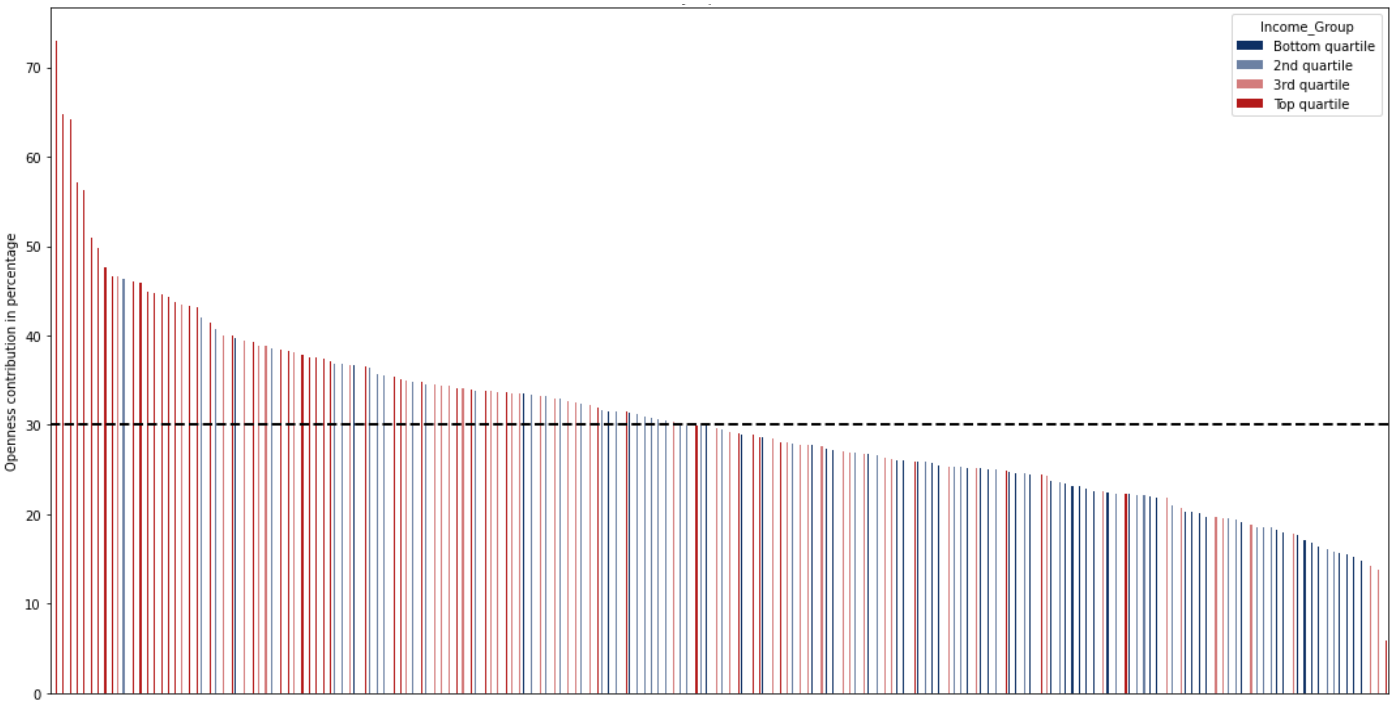
Source: Authors' calculations based on IMF and World Bank Group data.

Figure AI.5: Top 10 Countries by Global Share of Openness



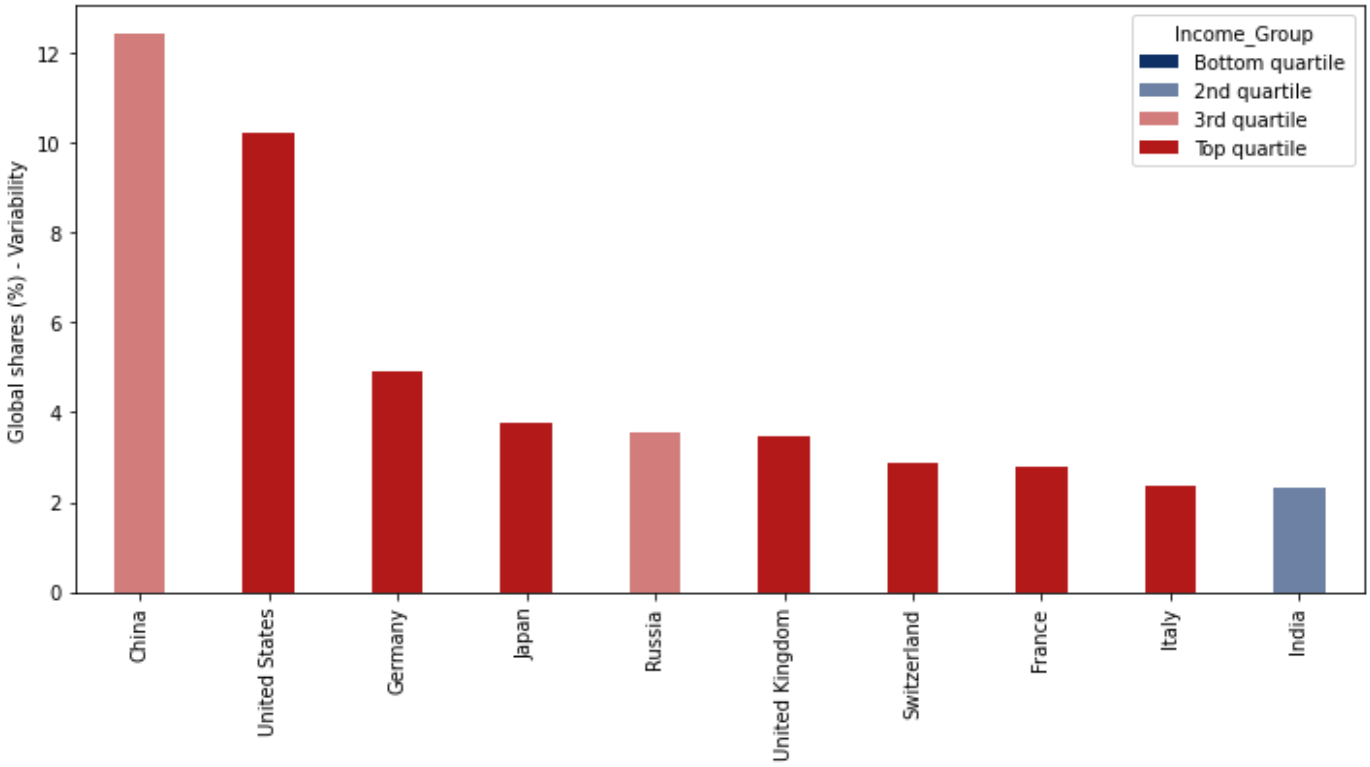
Source: Authors' calculations based on IMF data.

Figure AI.6: All Countries by Openness Contribution



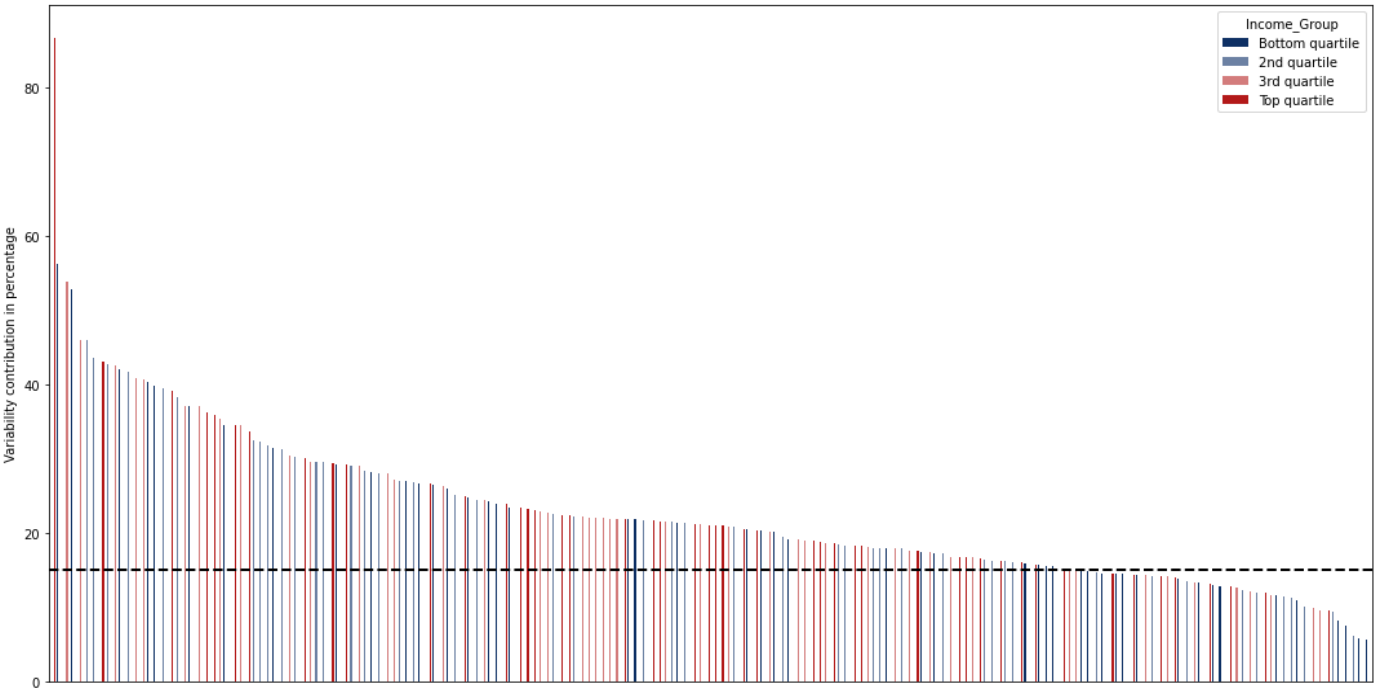
Source: Authors' calculations based on IMF and World Bank Group data.

Figure AI.7: Top 10 Countries by Global Share of Variability



Source: Authors' calculations based on IMF and World Bank Group data.

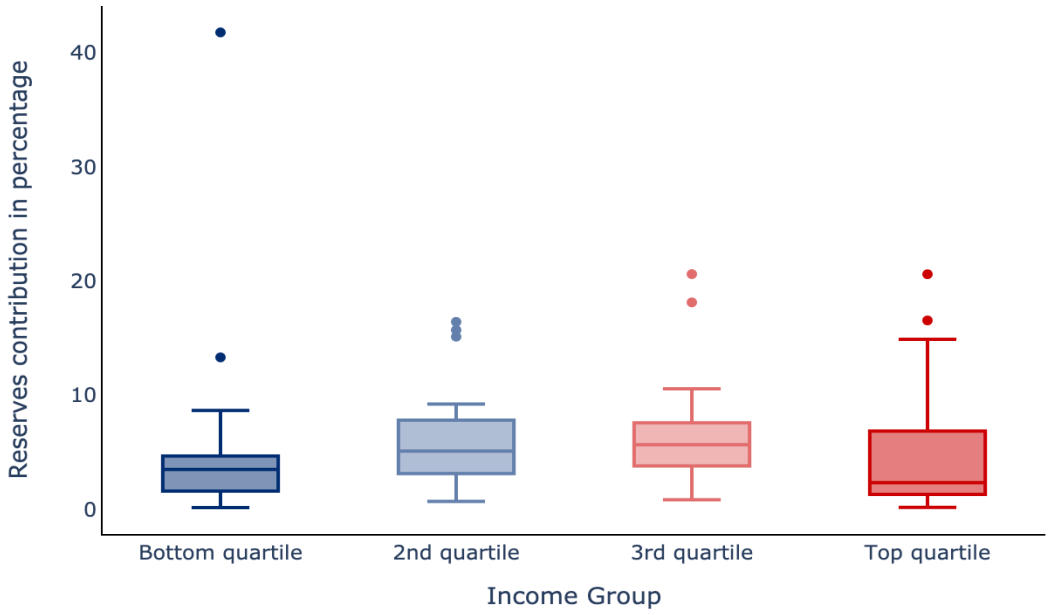
Figure AI.8: Variability Contribution by Country



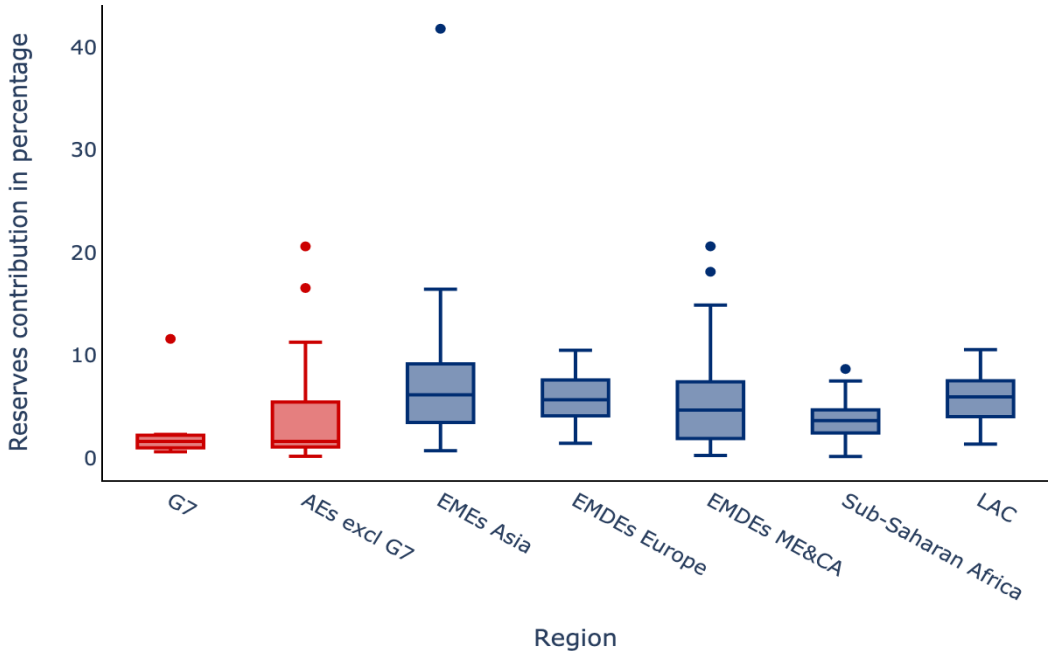
Source: Authors' calculations based on IMF and World Bank Group data.

Figure AI.9: Reserves Contribution by Income Group and by Region

Panel A

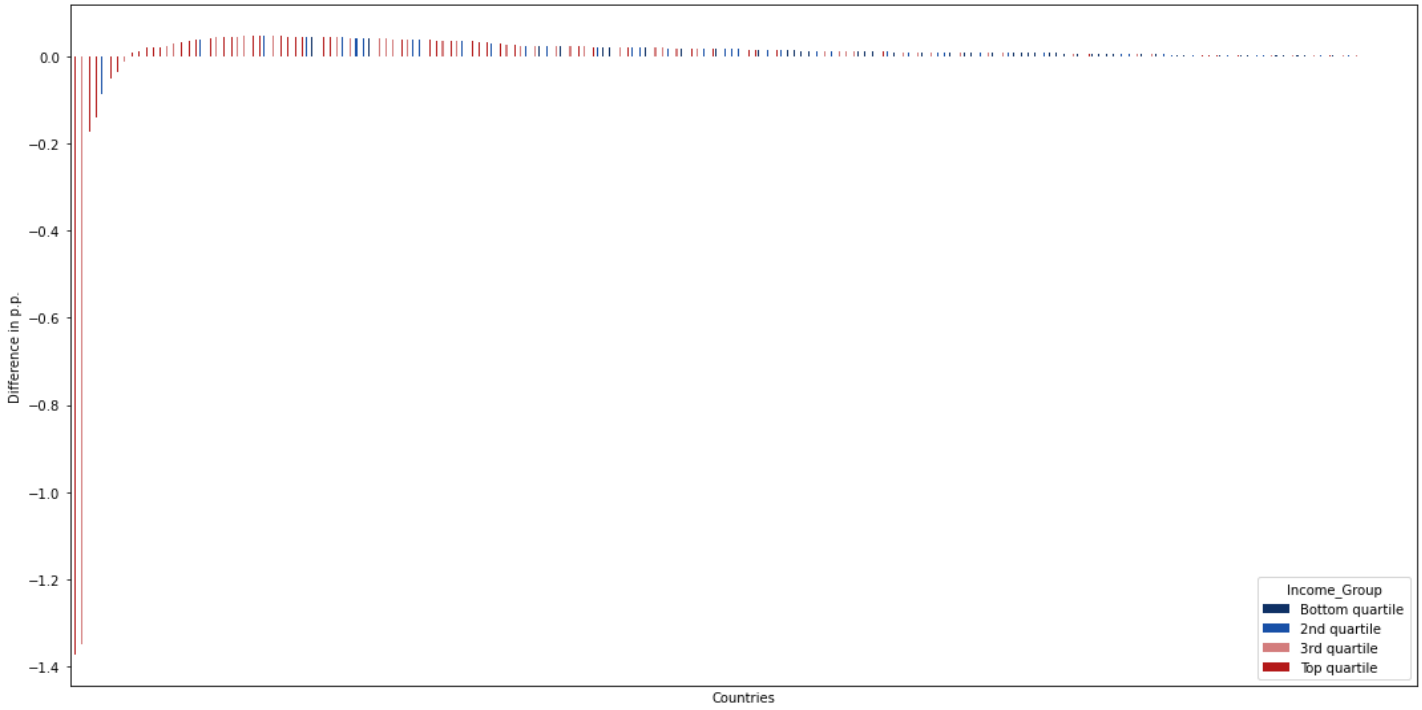


Panel B



Source: Authors' calculations based on IMF and World Bank Group data.

Figure AI.10: Distribution of the differences in CQS from increasing the compression factor (reducing k from 0.95 under the current formula to 0.9)



Source: authors' calculations based on IMF and WBG data.

ANNEX II: SCENARIOS CONSIDERED AND SIMULATION RESULTS

Table AII.1 presents the different scenarios selected for the computation of the CQS. Tables AII.2 and AII.3 display the CQS for each scenario, classifying the countries by region and income level.

The only scenario with positive gains for each subgroup within EMDEs is the one where China gains veto power. However, this scenario is politically unfeasible, as it would result in China obtaining veto power while the US and Euro Area advanced economies would lose theirs. Among the 17 scenarios considered, the scenario that maximizes the number of EMDEs benefiting (those with gains above 0.01 p.p. in their resulting CQS compared to the AQS) and minimizes the number of losers (those with losses below 0.01 p.p.) is also unfeasible. In both cases, the openness variable is eliminated.

Table AII.1. Variables' Weights Under Each Scenario

Scenario number	Description	Source	MER GDP	PPP GDP	GDP Blend	Openness	Variability	Reserves	k
0	***Current Formula***	IMF (2008 Reform)	**0.3**	**0.2**	**0.5**	**0.3**	**0.15**	**0.05**	**0.95**
Dropping variability									
1	- Elimination of variability: its weight split proportionally between GDP, openness and reserves	More conservative stance	0.35	0.24	0.59	0.35	0	0.06	0.95
2	- Elimination of variability: all its weight to GDP Blend	Based on IMF (2021)	0.39	0.26	0.65	0.3	0	0.05	0.95
3	- Elimination of variability: its weight split proportionally between GDP, openness and reserves - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 50%	Based on Coulibaly and Prasad (2023)	0.29	0.29	0.59	0.35	0	0.06	0.95
4	- Elimination of variability: all its weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 60%	Less conservative stance	0.26	0.39	0.65	0.3	0	0.05	0.95
Dropping variability and openness									
5	- Elimination of variability & openness: their weight split proportionally between GDP and reserves	More conservative stance	0.55	0.36	0.91	0	0	0.09	0.95
6	- Elimination of variability & openness: all weight to GDP Blend - GDP is measured only by PPP-based GDP	The more ambitious proposal of Nogueira Batista (2024)	0	0.95	0	0	0	0.05	0.95

Scenario number	Description	Source	MER GDP	PPP GDP	GDP Blend	Openness	Variability	Reserves	k
7	- Elimination of variability & openness: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 60%	The less ambitious proposal of Nogueira Batista (2024)	0.38	0.57	0.95	0	0	0.05	0.95
Dropping variability, reduced importance of reserves or its elimination, more importance to PPP GDP, and more compression factor									
8	- Elimination of variability: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 60% - Lower weight of openness (from 0.3 to 0.25) - Higher degree of compression (from 0.95 to 0.925)	Based on IMF (2021)	0.28	0.42	0.7	0.25	0	0.05	0.925
9 (scenario A, Table 3)	- Elimination of variability and reserves: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 60% - Lower weight of openness (from 0.3 to 0.25) - Higher degree of compression (from 0.95 to 0.925)	Based on IMF (2021)	0.3	0.45	0.75	0.25	0	0	0.925
10	- Elimination of variability and reserves: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 65% - Lower weight of openness (from 0.3 to 0.20) - Higher degree of compression (from 0.95 to 0.92)		0.28	0.52	0.8	0.2	0	0	0.92
11 (scenario B, Table 3)	- Elimination of variability and reserves: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 60% - Lower weight of openness (from 0.3 to 0.15) - Higher degree of compression (from 0.95 to 0.9)		0.34	0.51	0.85	0.15	0	0	0.9
12	Adjustment to guarantee that with basic votes US do not loose veto power: - Elimination of variability and reserves: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 65% - Lower weight of openness (from 0.3 to 0.15) - Higher degree of compression (k from 0.95 to 0.92)		0.30	0.55	0.85	0.15	0	0	0.92

Scenario number	Description	Source	MER GDP	PPP GDP	GDP Blend	Openness	Variability	Reserves	k
13 (scenario C, Table 3)	Adjustment to guarantee that with basic votes US do not loose veto power: - Elimination of variability and reserves: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 50% - Lower weight of openness (from 0.3 to 0.15) - Higher degree of compression (k from 0.95 to 0.905)		0.43	0.43	0.85	0.15	0	0	0.905
Dropping openness									
14	- Elimination of openness: weight split proportionally between GDP, variability and reserves		0.43	0.29	0.71	0	0.21	0.07	0.95
15	- Elimination of openness: all weight to GDP Blend		0.48	0.32	0.8	0	0.15	0.05	0.95
16	- Elimination of openness and reserves: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 60% - Higher degree of compression (k from 0.95 to 0.9)	Based on Cooper & Truman (2007)	0.34	0.51	0.85	0	0.15	0	0.9
17 (scenario D, Table 3)	Adjustment in order to guarantee that US do not loose the veto power & China do not win veto power: - Elimination of openness and reserves: all weight to GDP Blend - Increased weight of PPP-based GDP in the blended GDP measure from 40% to 45% - Higher degree of compression (k from 0.95 to 0.903)		0.47	0.38	0.85	0	0.15	0	0.903

Note: The scenarios included in section IV are highlighted in green.

Source: Compiled by authors.

Table AII.2. Scenarios Analyzed: Quota Shares by Region

By Region	Current CQS	AQS	CQS_1	CQS_2	CQS_3	CQS_4	CQS_5	CQS_6	CQS_7	CQS_8	CQS_9	CQS_10	CQS_11	CQS_12	CQS_13	CQS_14	CQS_15	CQS_16	CQS_17
AEs	**53.60**	**61.56**	**53.81**	**53.26**	**52.81**	**51.07**	**49.10**	**39.98**	**46.34**	**49.94**	**50.29**	**48.78**	**48.34**	**47.97**	**49.79**	**49.85**	**49.93**	**46.88**	**48.97**
US	14.78	17.43	15.74	16.27	15.21	15.12	17.79	13.42	16.79	14.68	15.39	15.17	15.15	15.42	15.98	15.96	16.96	14.77	15.87
AEs Euro Area	22.07	26.48	21.73	21.08	21.51	20.60	16.32	14.71	16.08	20.05	20.56	19.72	19.29	18.97	19.57	18.02	17.81	18.15	18.60
Japan	4.34	6.47	4.47	4.47	4.39	4.29	4.96	3.96	4.48	4.26	3.99	3.96	4.00	3.99	4.13	4.67	4.61	4.00	4.18
Other AEs	12.41	11.19	11.87	11.44	11.69	11.06	10.04	7.89	9.00	10.95	10.35	9.94	9.91	9.59	10.12	11.21	10.55	9.96	10.32
EMDEs	**46.40**	**38.44**	**46.19**	**46.74**	**47.19**	**48.93**	**50.90**	**60.02**	**53.66**	**50.06**	**49.71**	**51.22**	**51.66**	**52.03**	**50.21**	**50.15**	**50.07**	**53.12**	**51.03**
China	14.61	6.40	15.21	15.49	15.23	15.54	17.70	17.65	17.50	15.12	14.83	15.00	14.71	15.31	14.84	16.29	16.53	14.75	14.82
EMDEs Asia excl. China	9.05	6.58	9.33	9.48	9.74	10.39	10.38	14.32	11.70	10.73	10.78	11.29	11.33	11.52	10.74	9.75	9.92	11.32	10.47
EMDEs Europe	6.45	6.41	6.21	6.22	6.41	6.66	6.37	8.25	6.98	6.87	6.86	7.08	7.13	7.14	6.82	6.67	6.55	7.37	6.94
EMDEs ME&CA	7.11	7.61	6.56	6.55	6.73	6.93	6.78	8.29	7.20	7.32	7.18	7.42	7.65	7.48	7.32	7.52	7.21	8.29	7.87
Sub-Saharan Africa	2.72	3.53	2.54	2.60	2.62	2.77	2.82	3.60	3.11	3.04	3.11	3.27	3.48	3.34	3.31	3.01	2.98	3.75	3.55
LAC	6.46	7.92	6.33	6.40	6.45	6.65	6.85	7.90	7.17	6.97	6.94	7.16	7.37	7.25	7.17	6.91	6.87	7.64	7.38

Note: Country groups are defined by the classification of the WEO 2024, the exception is the exclusion of China from EMDEs Asia. AE= Advanced Economies, EMDE= Emerging Market and Developing Economies, LAC= Latin America and the Caribbean, ME&CA= Middle East and Central Asia. In red are the scenarios that are politically not feasible.

Source: Own calculations based on IMF data.

Table AII.3. Scenarios Analyzed: Quota Shares by Income Distribution

By Income	Current CQS	AQS	CQS_1	CQS_2	CQS_3	CQS_4	CQS_5	CQS_6	CQS_7	CQS_8	CQS_9	CQS_10	CQS_11	CQS_12	CQS_13	CQS_14	CQS_15	CQS_16	CQS_17
Bottom Quartile	2.85	3.44	2.73	2.83	2.84	3.06	3.20	4.26	3.61	3.39	3.51	3.73	3.98	3.83	3.76	3.26	3.29	4.23	3.97
2nd Quartile	10.72	9.61	10.82	11.06	11.33	12.18	12.35	17.26	14.03	12.78	12.92	13.62	13.83	13.95	13.07	11.87	12.05	14.15	13.07
3rd Quartile	29.67	21.98	29.80	30.11	30.18	30.95	32.82	36.08	33.62	31.09	30.67	31.29	31.25	31.74	30.80	31.95	31.92	31.88	31.16
Top Quartile	56.76	64.97	56.64	56.00	55.65	53.82	51.64	42.40	48.74	52.74	52.90	51.36	50.94	50.48	52.37	52.92	52.74	49.74	51.81

Note: Income groups were defined according to the 3-year average of GDP per capita at current US dollars (years included 2023, 2022, and 2019, it excludes years particularly affected by COVID-19, i.e., 2020 and 2021). This was done using the 2024 WEO database complemented by the World Bank Group database for countries with missing data.

Source: Own calculations based on IMF and WBG data.

Table AII.4: Scenarios Analyzed: Number of Winners and Losers by Region

Scenario	EMDEs			EMDEs Asia excl. China			EMDEs Europe			EMDEs ME&CA			Sub-Saharan Africa			Sub-Saharan Africa		
	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL >0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)
1	54	34	62	15	10	4	6	3	6	15	11	14	9	2	24	8	7	14
2	51	36	60	15	10	4	5	3	6	14	11	14	8	4	24	8	7	12
3	57	38	57	15	12	4	8	3	5	16	11	14	9	4	23	8	7	11
4	58	40	54	15	12	4	8	3	5	15	11	14	10	4	20	9	9	11
5	51	41	60	15	12	4	5	4	7	13	11	14	8	5	23	9	8	12
6	73	57	37	15	12	4	10	6	3	20	17	7	14	9	14	13	12	9
7	59	45	54	15	12	4	6	4	5	15	11	14	11	6	20	11	11	11
8	67	45	46	15	12	3	8	4	5	17	12	11	14	6	16	12	10	11
9	66	45	46	15	12	3	8	4	5	16	12	11	15	6	16	11	10	11
10	69	50	42	15	12	3	9	5	4	17	13	11	15	8	14	12	11	10
11	76	54	35	15	12	3	9	6	3	17	15	8	17	9	11	17	11	10
12	67	51	42	15	12	3	9	5	4	16	13	11	14	9	14	12	11	10
13	73	50	43	15	12	3	8	4	5	17	13	11	16	9	14	16	11	10
14	66	48	49	15	13	3	6	4	4	16	14	13	15	7	18	13	9	11
15	58	42	54	15	12	3	6	3	6	15	12	14	11	5	19	10	9	12
16	88	60	32	15	14	3	10	7	2	19	15	7	24	11	10	19	12	10
17	83	56	37	15	14	3	10	5	2	18	15	9	20	9	13	19	12	10
Total number of countries	152			29			15			31			45			32		

Note: Country groups are defined by the classification of the WEO 2024, the exception is the exclusion of China from EMDEs Asia. AE= Advanced Economies, EMDE= Emerging Market and Developing Economies, LAC= Latin America and the Caribbean, ME&CA= Middle East and Central Asia.

Source: Own calculations based on IMF data.

Table AII.5: Scenarios Analyzed: Number of Winners and Losers by Income Group

Scenarios	Bottom Quartile			2nd Quartile			3rd Quartile			Top Quartile		
	Nro of Gainers	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)	Nro of Gainers OOL>0	Nro of Gainers OOL>0.01	Nro of Losers OOL< (-0.01)
1	14	7	22	17	11	18	18	13	18	19	15	24
2	14	9	22	16	11	18	18	13	16	16	14	26
3	14	10	22	17	12	16	21	13	15	18	15	25
4	15	10	20	17	13	15	22	14	15	16	15	27
5	15	11	20	15	13	18	18	14	17	8	7	34
6	21	14	13	24	19	8	25	21	11	4	3	38
7	17	12	19	17	13	16	22	17	14	5	5	37
8	17	12	15	21	14	13	23	16	14	19	15	27
9	19	12	15	19	14	13	23	16	14	17	14	27
10	19	13	15	20	15	12	25	19	11	17	12	28
11	20	14	11	24	16	10	26	21	10	18	11	25
12	19	14	15	20	15	12	25	19	11	12	11	29
13	20	14	15	22	15	12	25	18	12	19	12	25
14	16	11	19	20	16	13	25	18	13	16	12	26
15	15	11	20	18	14	15	21	14	14	13	10	30
16	25	16	11	27	17	7	30	23	10	16	13	27
17	22	14	13	25	16	10	30	22	10	16	13	28
Total number of countries	48			47			47			48		

Note: Income groups were defined according to the 3-year average of GDP per capita at current US dollars (years included 2023, 2022, and 2019, it excludes years particularly affected by COVID-19, i.e., 2020 and 2021). This was done using the 2024 WEO database complemented by the WBG database for countries with missing data. OOL stands for *Out-of-Lineness*, which is calculated as the difference between the resulting quota share for each scenario and the AQS.

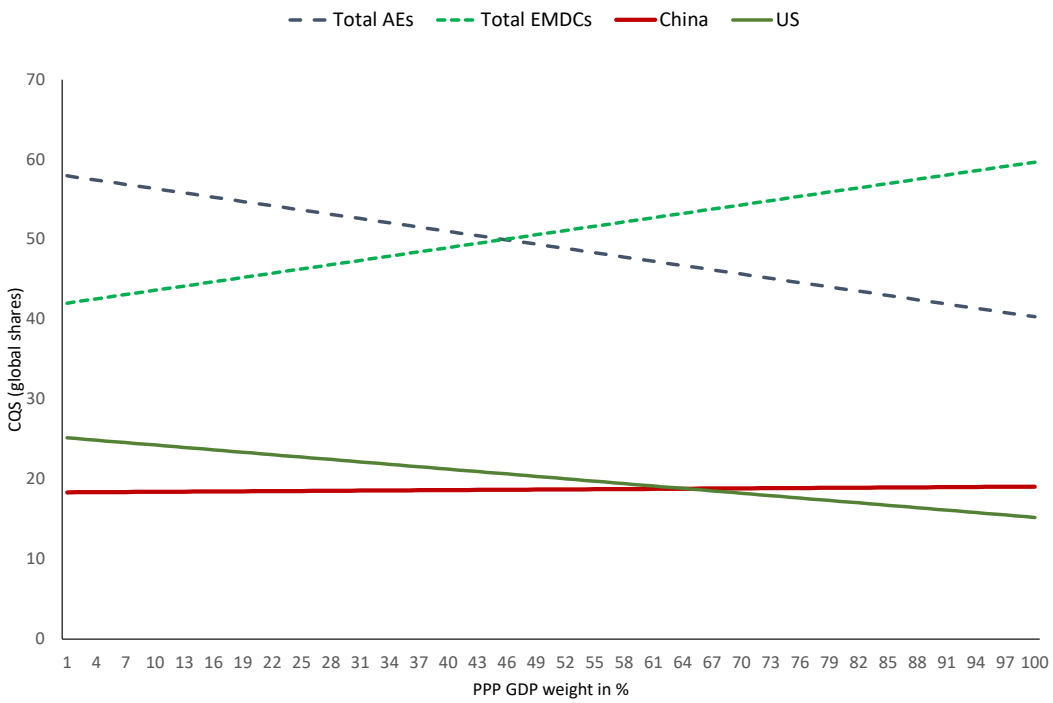
Source: Own calculations based on IMF and World Bank Group data.

ANNEX III: DISTRIBUTIONAL IMPACT OF DIFFERENT WEIGHTS GIVEN TO GDP PPP AND MER

Considering that (i) some members and reform proponents, such as Nogueira Batista (2024), argue that the quota formula should be simplified to a single variable GDP (IMF 2021); (ii) during the 14th Review, 40 percent of the quota increase was allocated solely based on the GDP blend variable; and (iii) the inclusion of PPP GDP in the 2008 reform will be reassessed in 2028 (as the Board agreed to review its inclusion after 20 years), we analyze how the CQS distribution changes across country groups for various weight combinations of PPP and MER GDP, using a formula that only includes these two variables (we do not apply the compression factor for this analysis). The results can be seen in Figures AIII.1 and AIII.2.

As shown in Figure AIII.1, increasing the weight of PPP GDP leads to a gradual reduction in the CQS for AEs, from nearly 58 percent of the global share (when CQS equals MER GDP) to 40 percent when PPP GDP is the only determinant of quota shares. This decline is primarily driven by the US. For EMDEs, higher weights on PPP GDP result in higher CQS for the group, with this trend consistent across all subgroups within EMDEs. This illustrates a clear distributional shift between AEs and EMDEs when adjusting the weights between PPP and MER GDP. Then, the weight given to PPP GDP plays a major role to reach a distribution of quota shares with more weight given to EMDEs and countries at the bottom of the income distribution. However, a voting power distribution based solely on PPP GDP would not be politically feasible, as it would grant China veto power (a change that will not be accepted by the major shareholders). Even with adjustments to the k parameter and basic votes, this outcome could not be avoided while simultaneously maintaining the veto power of the U.S. and the AEs in the Euro Area.

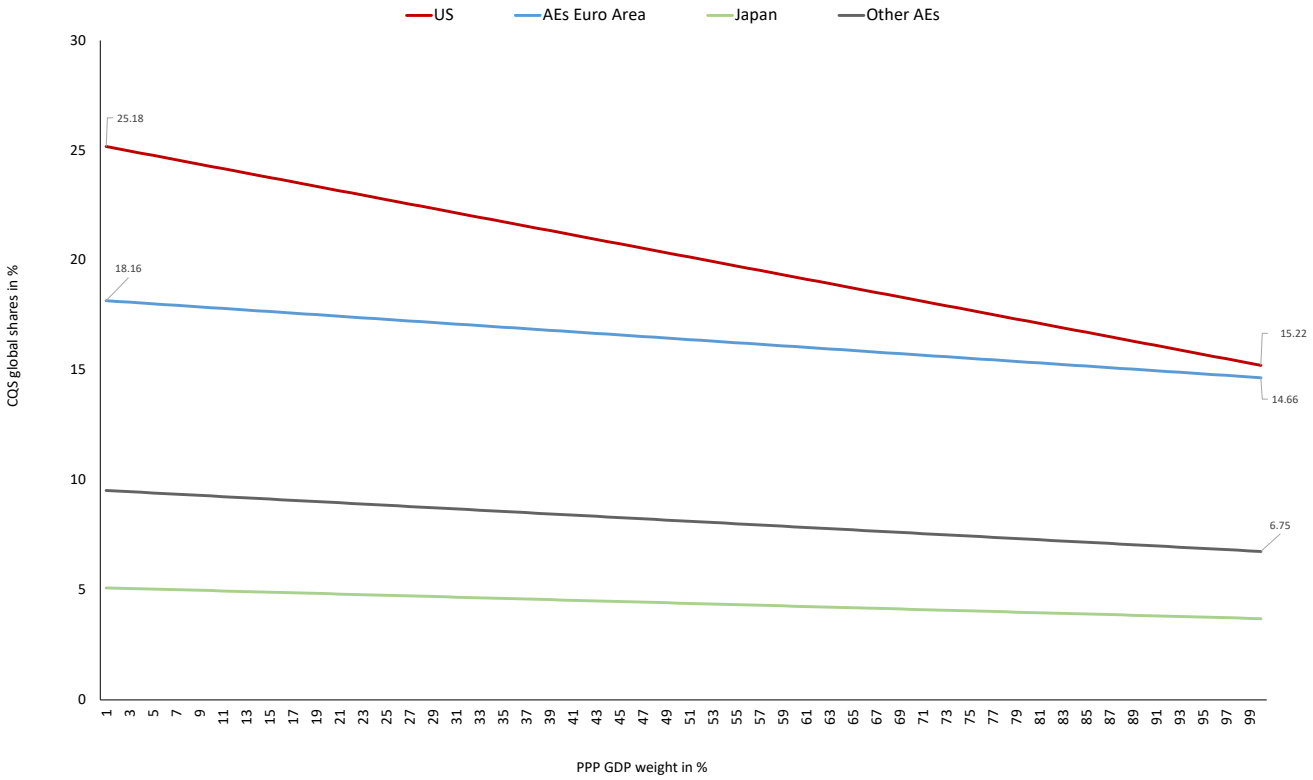
Figure AIII.1: CQS for Different Weights of GDP PPP (Formula Only Including GDP)



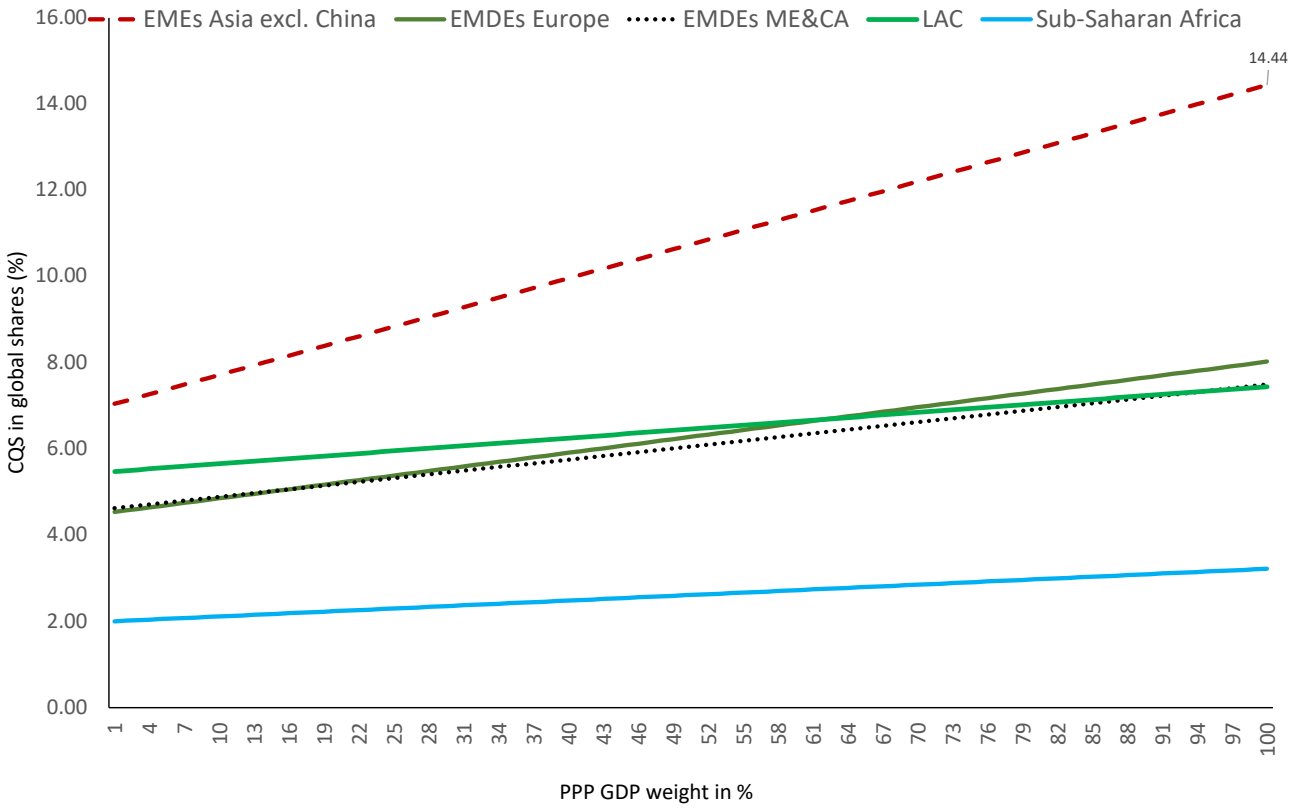
Source: Own calculations based on IMF and World Bank Group data.

Figure AIII.2: CQS of AEs and EMDEs for Different Weights of GDP PPP

Panel A



Panel B



Source: Own calculations based on IMF and World Bank Group data.