The IMF Quota Formula Review

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A. Background

At the conclusion of the 14th General Review of Quotas (14th Review), the Board of Governors of the International Monetary Fund (IMF) requested that a comprehensive review of the quota formula be completed by the Executive Board by January 2013.

The timetable for completing the 15th General Review was also advanced by two years to January 2014.[1]

The Articles of Agreements of the IMF do not prescribe specific mechanisms on how individual member quotas should be adjusted. Hence, the IMF has broad discretion to decide the relevant considerations that should serve as guide in the determination of the members' quotas. The formula provides guidance in quota reviews. In practice, the Board of Governors takes into account other considerations when deciding on adjustments in members' quotas, which require 85 percent majority of the total voting power.

In the lead-up to the 2008 reform, the Executive Directors emphasized that the formula should conform to a number of principles, i.e., it should be (i) simple and transparent, so that the basis for differences in relative quota shares is readily understandable; (ii) consistent with the multiple roles of quotas, appropriately reflecting global economic and financial trends and capturing members' relative positions in the world economy; (iii) broadly acceptable to the membership; and (iv) feasible to implement based on timely, high-quality and widely available data.

Quotas: Basics

- *Quotas determine a member's: (1) voting power; (2) IMF's financial resources (financial contributions of member countries); (3) members' access to IMF resources.*

- *The current quota formula was agreed in 2008. It includes four variables (GDP, openness, variability, and reserves), expressed in shares of global totals, with the variables assigned weights totaling to one. The formula also includes a compression factor that reduces dispersion in calculated quota shares.*

- *The formula is:* $CQS = (0.5*Y + 0.3*O + 0.15*V + 0.05*R)^k$

  where: CQS = *calculated quota share;*

  Y = *a blend of GDP converted at market exchange rates (MER) and purchasing power parity (PPP) exchange rates averaged over a three-year period. The weights of MER and PPP GDP are 0.60 and 0.40, respectively;*

  O = *the annual average of the sum of current payments and current receipts (goods, services, income, and transfers) for a five-year period;*

  V = *variability of current receipts and net capital flows (measured as the standard deviation from a centered three-year trend over a thirteen-year period);*

  R = *twelve-month average over one year of official reserves (foreign exchange, SDR holdings, reserve position in the Fund, and monetary gold); and*

  k = *a compression factor of 0.95. The compression factor is applied to the uncompressed calculated quota shares which are then rescaled to sum to 100.*

- *Voting power = basic votes + member's quota/100,000*

  basic votes = 5.502% of total no. of votes/no. of members

B. Issues Concerning the Quota Formula in the Lead-Up to the 2008 Reform

The new formula adopted as part of the 2008 reform was deemed a major improvement from previous formulas. In particular, it was simpler, more transparent and updated. However, it should be noted that the current quota formula represented a difficult compromise, and a number of members expressed their reservations about the various aspects of the formula. A staff paper entitled "Quota Formula Review—Initial Considerations" dated 10 February 2012 reviewed a number of issues raised about the quota formula in the lead-up to the 2008 reform. These issues represented the most challenging aspects in quota formula deliberations during the course of the 2008 reform.

On the existing variables in the quota formula

There was general agreement that gross domestic product (GDP) is the most important variable in the quota formula. GDP provides a comprehensive measure of economic size. It is a widely-reported and -utilized economic measure that is available on a timely basis for the majority of the membership. Market GDP has been viewed as the single most relevant indicator of a member's ability to contribute to the IMF's finances and is also relevant to a member's potential demand for IMF resources. Moreover, the GDP variable also captures the dynamism of member countries. Meanwhile, purchasing power parity (PPP) GDP was viewed as a relevant measure of members' weight in the global economy.

It was observed that two main issues have been raised regarding the role of GDP in the formula. First, some have argued that GDP should have a higher weight relative to the other variables in the formula, while others suggested that it should be the only variable. The staff paper pointed out that market GDP has played a significant role in decisions pertaining to members' access to IMF resources in some exceptional access cases. The second issue relates to the mix between market GDP and PPP GDP in the blend variable. The 2008 agreement to use a 60/40 weight reflected a compromise that took into account the central role of quotas in the IMF's financial operations, for which market GDP is the most relevant indicator. However, views on this matter have continued to diverge. Some IMF members have indicated that market GDP is the only relevant measure, while others expressed the view that PPP GDP should play a larger, if not exclusive, role.

Openness has been viewed as an indicator of a member's involvement and stake in the global economy. It was argued that countries that are relatively more open to trade and financial flows are presumed to have greater stake in promoting global economic and financial stability. Openness also may have a bearing on a member's ability to make financial contributions to the IMF and on a member's potential need for IMF resources. The current openness measure is observed to be highly correlated to GDP, but gives a greater relative weight to countries with higher ratios of exports to GDP. Some have questioned the role of openness in the formula as currently measured. Among the issues raised were:

• The current gross measure leads to double counting of cross-border flows which can overstate the importance of openness. Moving to a value-added

basis could address these issues, but the lack of a reliable database with sufficient coverage has prevented such a change to date.

- Intra-currency union flows should be excluded as they take place in a common domestic currency and may exaggerate a member's broader integration into the global economy. It has also been argued that since trade takes place in a common currency, the existence of a currency union reduces an important source of balance of payments risk for its members.[2] Others have emphasized that greater trade integration is not limited to currency unions and the degree of integration can vary across unions.

- It is recognized that integration in the global capital markets is an important indicator of a member's stake in the global economy and global financial stability as well as a member's ability to contribute to the IMF's finances and potential to utilize its resources. Three broad data sets were considered in the 2008 reform, namely: international investment position (IIP), investment income, and financial flows. However, data limitations have precluded the explicit introduction of such a measure in the formula. Estimates of these three possible indicators of a member's degree of integration in the global capital markets have been updated recently as part of the current exercise. The results of estimates of these three indicators suggested that they remained heavily dominated by advanced economies, with particularly large shares for members with important international financial centers.

Variability captures members' vulnerability to balance of payments shocks and potential need for IMF financing. Questions have been raised as to whether this measure captures sufficiently members' potential need for IMF resources, given that advanced economies hold the majority share of the variable. The staff paper examined a range of possibilities for amending the measure of variability as part of the work for the 2008 reform, and this work was updated in 2009.[3] The paper indicated that it is difficult so far to identify a measure that is clearly superior to the current approach. Moreover, it was observed that the largest shifts in quota shares relative to the current measure were registered for the scaled measures of variability. However, the staff paper noted that there is little evidence that scaled variability better reflects potential need for IMF resources, and small countries tend to have the largest shares. Alternative measures based on GDP or consumption tended to give greater weight to domestic shocks and raised data issues in some cases. While these variants all have shortcomings, the staff paper suggested that further analysis of whether the current measure adequately captures potential vulnerability is necessary, given the experience with the recent crisis and the large shifts in shares of this variable for a number of countries resulting from the 2009 data update.

Reserves provide an indicator of a member's financial strength and ability to contribute to IMF finances. While reserves have long been included in the formula, divergent views on their continued relevance were expressed in the lead-up to the 2008 reform. The staff paper indicated that there were many observations made that reserves remained to be a relevant indicator of members' financial strength and ability to contribute to the IMF's finances.

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[2] The ongoing Eurozone crisis indicated that even currency union members with relatively well-developed financial systems and institutional frameworks could face balance of payments risks that give rise to requests for financial assistance, especially from the IMF.

[3] The options considered included: scaling the existing measure of variability to GDP or the average of current receipts and net capital flows; use of a three- versus five-year trend; focusing on downside or extreme variability; and summing variability of current receipts and variability of net capital flows. Broader indicators were also explored, such as volatility of GDP growth, volatility of consumption growth and measures of consumption risk sharing.

Meanwhile, there were views that the relevance of this indicator has declined over time and raised concerns about potential distortions associated with excess reserve accumulation. Reserves were seen to have become less relevant to the ability to contribute given the increasing role of international capital markets, and they are considered to be a particularly misleading indicator for countries issuing international reserve currencies. In the end, reserves were retained in the formula with a relatively small weight in the 2008 reform.

Other Issues

The issue on whether to explicitly include a measure of members' financial contributions in the formula was discussed in the 2008 reform and the 14th Review. A general conclusion on this issue was that members' financial contributions to the IMF come in various forms. Hence, difficult measurement and aggregation issues would need to be addressed if members' actual contributions were to be captured on a more systematic basis. These include questions regarding which types of contributions should be taken into account, how different types of contributions should be aggregated, and what time periods should be considered.

A compression factor was introduced in the quota formula in the 2008 reform. This was seen as a way to temper the effects of the high correlation among size-related variables that tends to favor large economies. However, views were expressed that compression would reduce transparency and could dampen the formula's ability to capture dynamism over time. It was noted that compression tends to reduce the shares of a relatively small number of countries with the largest calculated quota shares, and increase the shares of all other members, without changing the ranking of members. Given the diverse views, a relatively modest compression factor was included in the quota formula as a compromise. However, the retention of this variable in the formula would be revisited in 20 years, along with the role of PPP GDP.

C. External Views on the Quota Formula

The more recent external work in relation to the ongoing quota formula review was undertaken by the G-24 Secretariat. In a paper entitled "Overview and Summary Assessment of the 2006-2010 IMF Quota and Voting Reforms"—prepared for the Brookings-Centre for International Governance Innovation (CIGI)-G24 seminar on 12 January 2012—the G-24 Secretariat analyzed the effects of the 2006–2010 reforms on voting and quota shares and assessed the outcomes of the reform in terms of quota and voting shares.[4] The issues that have surfaced with respect to the quota formula and basic votes were likewise discussed.

The paper highlighted that, in the case of the first round of reforms (April 2008 building on the initial September 2006 quota increase to four countries), the voting share of emerging market and developing countries (EMDCs) as a whole increased by 2.7 percentage points. However, the said rise in the voting share

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[4] Several benchmarks have been used to assess the outcomes of the reform in terms of quota and voting shares, namely: magnitude of the shift from advanced economies to EMDCs, and within that the shift to dynamic EMDCs; the shift from "over-represented" to "under-represented" countries on the basis of the quota formula; and the proportion of countries that have benefited from the reforms.

of EMDCs was due primarily to the increase in basic votes. The increase in quota shares for EMDCs amounted to only 1.1 percent, all of which was due to the initial allocations to the four countries in 2006.[5] It was also noted that quotas in the April 2008 package did not shift further because the majority of the increase in quotas was allocated to advanced economies. A relatively larger shift in quotas was achieved in the November 2010 reform. The package met the G20/International Monetary and Financial Committee (IMFC) target of a shift of at least 6 percent to dynamic EMDCs and from over- to under-represented countries. China, India, Russia and Brazil became part of the largest 10 shareholders. Of the 61 countries that received quota increases, 53 were EMDCs, and an additional 46 poor countries had their quota shares maintained. The reform led to a further net shift in quota shares and voting shares to EMDCs. The paper noted that the 2006-2010 reforms resulted in an increase in the aggregate voting power of EMDCs by 5.3 percent. In terms of quota shares, the aggregate shift to EMDCs from the 2006-2010 reforms amounted to 3.9 percent with the share of dynamic EMDCs increasing by almost 8 percent. This notwithstanding, it was observed that: (1) the shift to dynamic EMDCs, while significant, was not commensurate with the structural change in the global economy; (2) the shift to dynamic EMDCs was achieved at the expense of other EMDCs; and (3) the poorest countries (40 out of 43 poorest countries) were net losers in the quota reform, while sub-Saharan Africa suffered a decline of 18 percent in its aggregate quota share. The paper suggested that this development unmasked the shortcomings of the quota formula in the allocation process and the deficiencies of the formula's structure and underlying variables.

It was observed that the quota formula was not able to capture adequately the changes in the global economy for several reasons, namely: (1) GDP does not have a predominant weight in the formula–the weight of GDP PPP in the blend is only 40 percent and the data used is highly lagged; (2) openness tilts the outcome excessively towards a particular regional bloc and small open economies; and (3) there is misspecification of variability in the quota formula which resulted in advanced countries gaining 60 percent of the variable or nine percentage points in the quota formula that should go primarily to poor and vulnerable economies subject to exogenous shocks. In light of these, the paper suggested that a more systematic review is warranted on the goals that the quota formula should try to achieve and the variables that would best capture those goals. The paper suggested that five separate goals could be distinguished in embarking on a fundamental review of the quota formula, namely:

- Democratic Representation. As an international organization, democratic representation should take into account in the governance of the IMF the role of individual member states and the role of population. Basic votes are aimed at ensuring a minimum voice for each member country no matter how small, but this does not translate into additional quotas. In the current quota formula, the compression factor is aimed at redistributing quotas to the smallest countries in terms of calculated quotas. Whether these measures are appropriate and adequate need to be reviewed. The paper also noted that there is a strong basis to argue that population should

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[5] Initial ad-hoc allocations to four countries—China, Korea, Mexico and Turkey—were approved by the Board of Governors of the IMF in 2006 on the basis that they were under-represented on a wide range of benchmarks.

have some weight in the quota formula without overly tilting the balance to the most populous countries.

- Weight in the World Economy. Past discussions suggest that economic weight should be the dominant factor in determining a member's quota, and that a combination of GDP at market prices and GDP PPP should be used to assess GDP weight. The G-24 has strongly argued that GDP PPP should have a much higher weight. Some have continued to argue that openness as presently defined should continue to have a significant weight, but the paper pointed out that the measure is deeply flawed.

- Systemic Importance. The size of GDP already reflects the systemic importance of countries in the global economy. Other factors can also determine systemic importance such as financial size and potential for spillovers. But given that these attributes also suggest the potential for negative externalities, it is not clear that they should be included in the formula. Other elements may also give countries a systemically important role. For instance, Saudi Arabia's role in the oil market gives it a globally important systemic role.

- Vulnerability and Potential Need for IMF Financing. A country's vulnerability to shocks that are beyond its control should in principle be taken into account in determining quota size and access but how this should be achieved remains contentious, as pointed in the paper. It was observed that the present measure of variability does not achieve this objective

- Contributions. It is important to distinguish between countries' ability to contribute usable resources and actual financial and non-financial contributions. Reserves have been used as an indicator of the former but raises concerns of incentive compatibility. How actual contributions should and could be taken into account could pose a number of complex issues.

D. Overall Assessment

The four principles for constructing the quota formula which underpinned the 2008 reform (namely, simplicity and transparency, consistency with multiple roles of quotas, broad acceptability to the membership, and feasibility of implementation, as mentioned earlier) remain relevant for the current review of the IMF's quota formula.

Indeed, GDP is the most important variable in the formula as it provides a comprehensive measure of economic size. This is currently recognized, with GDP having the largest weight of 50 percent in the formula. Within the GDP blend, a higher weight for GDP PPP could better capture the real size of an economy and reflect the growing economic importance of EMDCs. However, GDP alone would not be able to fulfill the multiple roles of quotas. An all-GDP formula also goes against the grain of recent governance and quota reforms. Preliminary estimates indicate that EMDCs could suffer a net loss in their aggregate calculated quota shares, with about three times as many EMDCs losing calculated quota shares as those which gain from such a move. Likewise, it is estimated that there are significantly more EMDCs that lose shares compared to those that gain in the scenarios where non-GDP variables are dropped, except for reserves where the effects of dropping are more evenly divided.

Against this backdrop, the proposals for the quota formula review need to be assessed against the effects the quota formula has on the entire membership. It is therefore important to maintain a balanced formula that preserves an adequate and meaningful role for non-GDP variables. In this regard, openness remains an important indicator of a member's integration into, and stake within, the global economy. It has bearing on both the ability to make financial contributions to the IMF as well as potential borrowing needs. Further, it bears recalling that the IMF was founded to facilitate the growth of international trade and current account liberalization. Trade-based indicators have always been part of the quota formulas used since the Bretton Woods Conference. In this regard, work should continue on improving the data and methodology on possible indicators of a member's degree of integration in the global capital markets as part of the current exercise. There is also merit in retaining variability in the formula. It should be noted that a country's susceptibility to volatile trade and financial flows gives rise to its potential demand for IMF financing. Maintaining variability also seems to primarily benefit large economies and magnify unduly the role of economic size which, to a large extent, is already captured in the GDP variable. Given the continued relevance of this indicator, efforts should continue to explore ways to improve the measurement of variability. We consider reserves as a useful indicator of a member's ability to contribute to the IMF's resources. The weight of reserves is currently minimal and should not be further reduced. Meanwhile, the broad participation of a growing number of countries, including smaller economies, in the New Arrangements to Borrow (NAB), borrowing agreements, and Poverty Reduction and Growth Trust (PRGT) contributions is notable. The contribution from these countries is an encouraging development. Meanwhile, their contribution in proportion to their quota share is not surprising as the IMF should remain a quota-based institution. With regard to financial contributions, further work should be pursued to explore possible incentives and recognition to members that make significant contributions such as embedding a variable in the formula. Lastly, there is merit in retaining the compression factor in the formula to address the concentration of voting power and accord protection to small members and low-income countries (LICs), consistent with the inclusive character of the IMF.