# Transparency and Democracy in the Governance of the International Monetary Fund and Reforms in Progress: A Voting Power Analysis

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**Abstract** The weighted voting system used by the International Monetary Fund in its board of governors and executive creates problems of democratic legitimacy because each member's influence over decisions taken by vote, that is its voting power, is not in general in proportion to its voting weight, that is, the number of votes it casts. This paper uses voting power analysis to analyse the distribution of voting power in the Board of Governors, showing that the voting rules enhance the voting power of the United States substantially at the expense of all other members. That is, the voting power of the United States is relatively much greater than its nominal voting power (its voting weight). Separate analyses are done for 2006 (before reform), 2008 (after increases to some emerging countries' quotas), 2016 (current situation) and the 2010 proposals. I find that the effects, apart from the large increase in the voting power of China, are somewhat disappointingly small. There is no analysis of the implications of the radical reforms of the Executive Board because the changes have not been introduced at the time of writing.

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In November 2010 the Executive Board of the International Monetary Fund agreed a package of radical proposals to overhaul the governance of the organization aimed at strengthening its legitimacy and effectiveness. Managing Director Dominique

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Strauss-Kahn welcomed it, saying: "This historic agreement is the most fundamental governance overhaul in the Fund's 65-year history and the biggest ever shift of influence in favor of emerging market and developing countries to recognize their growing role in the global economy." In this paper I investigate how far this ambitious claim can be substantiated, using the methodology of voting power analysis.

## 1 The Reforms

The reforms[1] consist of three elements:

1. increasing the financial resources available for dealing with crises by doubling the quotas contributed by all the member countries, known as the 14th General Review of Quotas, increasing quotas to approximately SDR 476.8 billion (about US$755.7 billion at current exchange rates);
2. making the voting system fairer by a major realignment of quota shares among members to reflect the changes that have taken place in the relative economic importance of countries, specifically a shift of more than 6% of quota shares to dynamic emerging market and developing countries, and more than 6% from over-represented to under-represented countries, while protecting the quota shares and voting power of the poorest members;
3. changing the composition of the Executive board to make it more representative and all-elected.

Mr. Strauss-Kahn said these changes "will enhance the credibility and effectiveness of the Fund's ongoing efforts towards greater global financial stability."[2] The first of the three elements obviously does that and requires little further comment, since it deals with ensuring that the IMF has the necessary fire-power in the form of monetary resources needed to deal with crises. But it is not immediately clear that the other two elements will do so; they are about governance, which is my concern here.

The process of improving the governance of the IMF has been slowly ongoing since the need for reform was accepted by all countries as part of the Monterrey Consensus agreed in 2002 and reiterated in Doha in 2008, after which interim changes to the distribution of quotas, hence voting power, among members, was agreed. But the full implementation of the agreed changes has depended on approval from the US Congress which was only granted in December 2015, following which the required amendments to the Articles were able to be agreed by the Executive Board in January 2016.

Central to the governance of the IMF is weighted voting, used in both its governing bodies: the Board of Governors and the Executive Board. All member countries have a voice in the Board of Governors but cast different numbers of votes

[1] IMF (2010).

[2] IMF (2010).

depending on their quotas. How many votes each country can cast is determined by a formula that gives it a number of so-called basic votes, the same for each country, plus a number proportional to its quota.[3] The membership of the Executive Board is restricted to 24 directors who are elected to represent the members; decisions are taken, and members elected, by weighted voting. Weighted voting in the IMF is somewhat problematic because it has resulted in a democratic imbalance with the distribution of voting power being massively biased against the developing and poor countries. This voting dominance by the industrialized countries has often been criticised by the developing countries as leading the organization to adopt policies that have taken insufficient notice of the concerns of those countries, especially the imposition of conditions on borrowers derived from the neo-liberal economics of the Washington Consensus.[4] On the other hand it has always been defended by spokesmen for the rich countries on the grounds that, as a general principle, the providers of capital are entitled to decide how it is used. However a consensus on the need to change distribution of voting power has been a major impulse for reform.

Changes that were agreed—aimed at giving greater voice to poor countries and emerging economies—are as follows. Quota changes which will mean four emerging market countries (Brazil, China, India, and Russia) will now be among the ten largest members of the IMF. (The other top 10 members include the United States, Japan, and the four largest European countries: France, Germany, Italy, and the United Kingdom). At the same time the quota shares and nominal voting powers of the IMF's poorest member countries will be protected.

The far reaching changes to the structure of the Executive Board mean that, for the first time, it will consist entirely of elected directors, ending the practice whereby the countries with the five largest quotas appointed their own directors while the rest were elected through a system of constituencies. There is to be further scope for appointing a second Alternate Executive Director in multi-country constituencies with seven or more members in order to enhance the constituency's representation in the Executive Board. This is specifically intended to benefit the two African constituencies in particular. Advanced European countries have committed to reduce their combined Board representation by two directors.

One major part of the reforms is the simplification of the formula by which quotas are in principle allocated.[5] Table 1 shows the byzantine system which formally this has been. It has been described as 'fiendishly complex', involving five different formulae and an algorithm for determining which formula would actually be used to give the answer. There is no need to discuss this further here, merely to note the minimal transparency in this formal stage in the process of allocating quotas before considering the even less transparent political negotiations. This has been replaced by a much simpler and much more transparent formula described in Table 2.

[3]One vote for every 100,000 special drawing rights of quota. Each country's quota is its financial stake in the IMF and meant to reflect its importance in the world economy.

[4]See eg. Buira (2003), Woods (2006).

[5]I say 'in principle' because the actual allocation has not, in the past, been simply a matter of automatically applying the official formula but rather a political matter involving negotiation.

## 2 Real and Apparent Voting Power

Besides this inequality in the voting arrangements that results from the use of weighted voting—inequality that has historically been intended as part of the design of a political institution on the principle that those who contribute most should have the most say—there exists a *further* source of inequality that is not at all transparent. The voting rules are designed to lead to inequality in power and influence but the design does not lead to the intended degree of inequality because of unintended, effects inherent in weighted voting itself. It is this that is the focus of the study reported in this paper.

The idea of using weighted voting is that each country's voting power should be set out in the rules of the organization to be proportional to its voting weight. However, a member's voting *power* is not the same as its *weight*: its *power* is its ability to be decisive whenever a vote is taken—in other words to make a difference to the outcome by voting one way rather than another—whereas its *weight* is just the number of votes it has been allocated. This distinction is a mathematical feature of weighted voting rules and it can only be revealed by detailed analysis that looks at outcomes, using the method of voting power indices. There is no general formula linking voting power to voting weight. Because the distinction between voting weight and voting power is often ignored in practice, designing constitutions that use weighted voting often leads to undesired and/or unexpected consequences.

Countries' voting weights are very unequal: the USA has more than two-and-a-half times as many votes as the country with the next-largest voting weight, Japan. That raises the interesting question of whether the influence over voting outcomes of the two countries are in the same or a different ratio. We use power indices to measure each member's voting power in order to address this. The USA turns out to have much more voting power than weight. This disproportionality is another argument for reforming the weights in a more radical direction than hitherto. More generally the lack of a direct link between power and weight adds to the case for decoupling the allocation of votes from both the provision of and access to finance.

Defenders of the present voting system claim it embodies democratic accountability if one accepts the principle that voting rights should be attached to the supply of capital. For example, when he was Managing Director Horst Köhler said: "I would also like to underline that still we are a financial institution, and a financial institution means you need also to have someone who provides capital and I think there is a healthy element in the fact that the provision of capital and voting rights is, in a way, combined, because this is also an element of efficiency, of accountability."[6] The distorting effect of weighted voting that we describe below makes this claim far from being true.

The method of voting power analysis requires us to analyse all the voting outcomes that can occur, and investigate the ability of every member to be decisive,

[6]House of Commons Treasury Select Committee, 4th July 2002.

in other words to be able to change the decision by changing the way it casts its vote. We will compute voting power indices to compare the powers of different members.

Our principal finding is that the voting power of the USA is far greater than its voting weight. That is, its *actual* power over decision-making far exceeds its *nominal* voting power. We also use the method for three important analyses: first the effect of the *ad hoc* increase in voting weight that occurred in 2008 for four emerging economies (China, Korea, Mexico and Turkey) that were previously badly unrepresented; second the more radical reforms agreed in 2010; third the actual voting weights as of 2016 after the reforms had begun to be implemented.

We begin with an outline of the principles of voting power analysis in the next section. Then in Sect. 3 the system of governance of the IMF is described, in Sects. 4 and 5 we present the analyses of the Board of Governors and the Executive.

## 3 Weighted Voting and Voting Power Analysis

A country's voting power is its potential to be decisive in a decision taken by vote, measured by the probability with which it can change what would otherwise be a losing vote to a winning one. In general this has a rather imprecise relation with its weight. In reality its power depends on all the other members' weights as well as the voting rule by which decisions are taken. A case that shows the issue starkly is that of the European Economic Community which also employed weighted voting in the council of ministers: the distribution of voting power among the six members was far from proportional to voting weight between 1958 and 1972. See Leech and Leech (2005b) for the details.

The approach is technically referred to as that of *a priori* voting power: each member's power index is its decisiveness as a fraction of the theoretically possible outcomes without regard for the likelihood of their occurring. The method can be thought of as an analysis of the implications for power of the voting rules, considered in the abstract, as giving what can be called constitutional power.[7] Probability theory is used as a tool for calculating the power indices. Technically the probability of a voter being decisive is the Penrose index (also known equivalently by various names including the Penrose measure, Penrose-Banzhaf index, absolute Banzhaf index). This is a measure of the a priori probability of the voter being decisive and is the simplest index for the purpose. Other power indices exist and could be used, but we take the view that the superiority of the Penrose-Banzhaf index is established on both theoretical and empirical grounds.[8] Since my purpose is

[7]No consideration is given here for the members' preferences, which would determine the likelihood of particular members voting in the same way as each other, which would produce an analysis of empirical voting power.

[8]See Felsenthal and Machover (1998), Leech (2002b) for a comparison with the other so-called 'classical' power indices.

to investigate changes in relative voting power among the member countries, I use the normalized version of the index, generally known as the Banzhaf index (or normalised Banzhaf index), that has the property that the indices for all the voters sum to one hundred percent, and therefore it provides a distribution of voting power. We will refer to values of this index as voting powers.[9]

## 4 Weighted Voting in the IMF Governors

All countries are members of the Board of Governors, and as such have direct representation at the highest level of formal decision-making, but the real day-to-day management is done by the Executive Directors (also known as the Executive Board).

In the Board of Governors and in the election of Executive Directors the voting weight of each country is made up of two components: a fixed component of so-called 'basic' votes which is the same for each country, and a variable component that depends on the country's quota. This formula for determining voting weight is intended as a compromise between two principles: the equal representation of member countries (via the basic votes), analogous to the UN General Assembly, and voting power based on contributions in the manner of a joint stock company. Over time the basic element had become severely eroded and the quota-based votes have become dominant. This is an important factor behind the disempowerment of the poor countries. The reforms provide for an immediate tripling of the basic votes and then maintaining them at the same level in relative terms thereafter.

There are currently 189 members, of whom the USA has[10] by far the largest voting weight, with 831,402 votes, 16.58% of the total, and the smallest is Nauro with 1480 votes, 0.03%. The second-highest voting weight is held by Japan with 6.17%, Germany 5.34%, France and UK with 4.05% each and so on.

A variety of decision rules are used for different types of decisions. Ordinary decisions are made by simple majority (50% of the votes cast plus one; the quorum for meetings of the Board of Governors being a majority of members having not less than two-thirds of the voting weight; that for the Executive Board being a majority of directors having not less than one-half of the total voting weight). A number of matters require decisions to be taken by a supermajority of at least 85%. This supermajority, taken in conjunction with the weight of the USA, means that the USA is the only member that possesses a veto, and that will continue under the reforms.

The American veto has always been an important feature built into the design of the governance of the Fund, the Articles having been amended to increase the supermajority threshold for special decisions from 80 to 85% in 1978 when the

[9]The indices are computed using an algorithm described in Leech (2003) and available to use via the internet on website Leech and Leech (n.d.) as software package *ipmmle*.

[10]In June 2016.

USA decided to reduce its quota. The existence of this veto power does not mean that the USA can be said to *control* the institution, however. Although it confers unilateral blocking power, at the same time it also limits that country's power because it equally ensures a collective veto for small or large groups of other countries. Any proposal by the United States can be blocked: in the terminology proposed by Coleman, while the 85% rule gives the United States complete *power to prevent action*, it also limits that country's *power to initiate action* (Coleman 1971). Therefore its voting power, which combines power to initiate and to prevent action, is limited so its power index is less than 100%. Because of this the 85% rule tends to equalize voting power. The use of a supermajority decision rule therefore tends to undermine the specific advantages of weighted voting. Taking the argument to its absolute limit, a unanimity rule would give every member a veto and equalise the power distribution. For these reasons the power analysis in this study considers only ordinary decisions that require a simple majority vote. Analysis of power in the IMF with supermajorities (before the reforms) was reported in Leech (2002a).

## 5 Impact of the Reforms on Voting Power Distribution

Table 3 shows four analyses which reveal the weighted voting effect and give a picture of the effects of the quota reforms:

1. for 2006 before the reforms;
2. for 2008 after the *ad hoc* adjustments to the quotas of four emerging economies, China, Korea, Mexico and Turkey, that were seriously out of line;
3. for 2016, after the partial implementation[11] of the reforms agreed in 2010; and
4. for the full implementation of the 2010 reforms.

The table shows, for each of the main countries, (1) its relative voting weight and (2) its normalized power index or vote share,[12] in each of the years. Significant changes in weights in the reforms are highlighted in bold. The table also shows the Gini coefficient of inequality over all member countries for both the voting weights and the voting power indices. Inequality is very high in 2006 and the reforms reduce it by very little. Inequality in voting power is slightly higher than it is for weight.

The table shows that the voting power of the United States is considerably out of line with its weight. In 2006 its voting weight of just over 17% gave it 24.49% of the voting power. Its weight went down slightly in 2008 and again in 2012 but it was still massively dominant giving it much greater voting power. All other members have less

[11]Quotas change when countries make the payments, which not all have done at the time of writing.

[12]These power indices have been calculated using the computer program *ipmmle* (accessible online at www.warwick.ac.uk/~ecaae) which implements the algorithm for computing power indices for voting bodies that are large both in having many members and where the voting weights are large numbers, described in Leech (2003). For an overview of computing power indices see Leech (2002b).

power than their weight. Thus we can say that the weighted voting system has a hidden tendency to enhance the power of the USA at the expense of all other countries.

The 2006 table also brings out a number of glaring anomalies pointing to the need for reform. Canada and China had the same number of votes, and voting power, despite the economy of China being much bigger than that of Canada. This bias against developing countries is seen, also, in the comparison of the voting weight of some rich countries like Belgium, Netherlands and Spain with large emerging economies especially India, Brazil and Mexico. A particularly glaring juxtaposition is that between Denmark and Korea,[13] the former having more voting weight than the latter despite its economy being much smaller than the latter.

The reforms have been in two stages: first the *ad hoc* increases for China, Korea, Mexico and Turkey implemented in 2008, then the changes resulting from the more radical reforms implemented in 2016. These were: (1) the introduction of a more transparent, simpler formula to replace the previous complicated fivefold system; (2) tying the quotas more closely to the formula; (3) tripling of basic votes for all members; (4) a second round of *ad hoc* increases for the four countries mentioned above. This second round was accompanied by an increase in general quotas. The main changes in relative voting weights were increases for China, Korea, India, Brazil, Mexico and some others at the expense of the USA, some European countries notably the UK and France, Saudi Arabia and Canada. None of the changes was greater than one percent of the total voting weight, so perhaps it is not surprising that the voting power effects are very small.

The effects are all small. They provide little support to the claim of the then IMF Managing Director, Dominique Strauss-Kahn that, "Taken together, it's a big shift in quotas and accordingly in voting power. It's a very important increase in the voice and representation of the emerging market and developing countries . . . it is a historical reform of the IMF."[14]

## 6 Gainers and Losers of Voting Power

Table 4 shows the biggest changes in voting power indices. China is the biggest gainer, increasing its share of voting power very substantially from 2.69 to 5.51%. No other country enjoys an increase in its power share of as much as 1%. The next largest gainer is Korea going from 0.7% in 2006 to 1.61 in 2016, then Brazil, India, Mexico, all emerging markets, with increases above 0.5%, followed by Spain. The biggest losers are USA and Saudi Arabia, losing more than one percent of voting power each. Then a group of industrial countries all suffer a relatively large loss of voting power, of more than 0.5%: UK, France, Belgium, Canada and Netherlands.

[13]Both are too small to be shown in the table which only shows the top 25 countries.

[14]Press Release: "IMF Board Approves Far-Reaching Governance Reforms", 5 November 2010, IMF Washington.

These changes are all moves in the right direction but only that for China could really be called radical, the others seeming to be more gradual. However it is interesting that although China has enjoyed a big increase in its voting power, that does not fully reflect its additional voting weight: its voting weight increased by 3.17% while its voting power increased by 2.83%.

## 7 Conclusions

I have used the method of voting power analysis and power indices to analyse the voting system by which the IMF is governed and the recent reforms that have been made to it or are in progress. I argue, and hopefully have demonstrated, that this approach provides valuable insights that help us better understand weighted voting systems.

My analysis has been confined to the distribution of voting power in the Board of Governors, where all member countries have a voice. It has not been possible to make an analysis of the Executive Board because the changes in it are structural and qualitative in nature, not just quantitative changes to the quotas and voting weights. An analysis of the distribution of voting power of members of the Executive Board requires much more information regarding the way in which members of the board are elected than we have because the move to an all-elected board in November 2016 will result in a fundamental reallocation of countries to constituencies and we cannot predict the voting weights controlled by the board members.

The principal finding is that the United States share of voting power is always substantially much more than its weight, while for all other members, their voting power shares are slightly lower than their weights. This is a pattern characteristic of many voting bodies where there is one dominant, though non-majority, member. Not only is the allocation of voting weight very unfair from the point of view of an ideal of "One person, One vote", with many large developing countries and emerging markets seriously under-represented, but this bias is compounded by the inequality in the distribution of weights and the voting rules.

The biggest gainer from the reforms is China, which gains a very large share of voting power. Other emerging markets, including Korea, Brazil, India and Mexico, also gain, but the effects are incremental rather than radical and relatively small: all are less than 1% of total voting power. These increases are mainly at the expense of the United States and Saudi Arabia, which suffer substantial falls of over 1%, and also some of the industrial countries including the UK, France, Canada, Belgium and the Netherlands. None of these effects are very great, which suggests that the reforms do not live up to some of the claims that have been made for them.

These results point to a serious limitation in the transparency and democratic legitimacy of the governance of the institution. And claims that the recent quota reforms are a major step towards improving the voice and representation of the poor countries and emerging economies are over statements.

# Appendix

**Table 1** The existing five quota formulae

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|---|
| Bretton Woods: $Q_1 = (0.01Y + 0.025R + 0.05P + 0.2276VC)\ (1 + C/Y)$; |
| Scheme III: $Q_2 = (0.0065Y + 0.0205125R + 0.078P + 0.4052VC)\ (1 + C/Y)$; |
| Scheme IV: $Q_3 = (0.0045Y + 0.03896768R + 0.07P + 0.76976VC)\ (1 + C/Y)$; |
| Scheme M4: $Q_4 = 0.005Y + 0.042280464R + 0.044\ (P + C) + 0.8352VC$; |
| Scheme M7: $Q_5 = 0.0045Y + 0.05281008R + 0.039\ (P + C) + 1.0432VC$; |
| where: |
| Q1, Q2, Q3, Q4, and Q5 = Calculated quotas for each formula; |
| Y = GDP at current market prices for a recent year; |
| R = 12-month average of gold, foreign exchange reserves, SDR holdings, and reserve positions in the IMF, for a recent year; |
| P = annual average of current payments (goods, services, income, and private transfers) for a recent 5-year period; |
| C = annual average of current receipts (goods, services, income, and private transfers) for a recent 5-year period; and |
| VC = variability of current receipts, defined as one standard deviation from the centered 5-year moving average, for a recent 13-year period. |
| For each of the four non-Bretton Woods formulas, quota calculations are multiplied by an adjustment factor so that the sum of the calculations across members equals that derived from the Bretton Woods formula. The calculated quota of a member is the higher of the Bretton Woods calculation and the average of the lowest two of the remaining four calculations (after adjustment). |

*Source*: Quotas—updated calculations and data adjustments prepared by the finance department in consultation with the statistics and other departments, IMF, July 11, 2007

**Table 2** The new quota formula

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|---|
| The proposed new quota formula includes four quota variables (GDP, openness, variability and reserves), expressed in shares of global totals, with the variables assigned weights totaling to 1.0. The formula also includes a compression factor that reduces dispersion in calculated quota shares. |
| The proposed new 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 rates and PPP exchange rates averaged over a 3 year period. The weights of market-based 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 5 year period; |
| V = variability of current receipts and net capital flows (measured as a standard deviation from the centered 3-year trend over a 13 year period); |
| R = 12 month average over a 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. |

*Source*: Reform of Quota and Voice in the International Monetary Fund—Report of the Executive Board to the Board of Governors, IMF, March 28, 2008

**Table 3** Voting weights and voting powers in the Board of Governors (largest quota countries)

| 2006 (181 countries) | | | 2008 (185 countries) | | | 2016 (189 countries) | | | 2010 Proposals (188 countries) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Weight | Power | | Weight | Power | | Weight | Power | | Weight | Power |
| USA | 17.09 | 24.49 | USA | 16.77 | 23.80 | USA | 16.58 | 23.39 | USA | 16.47 | 23.27 |
| Japan | 6.13 | 5.46 | Japan | 6.02 | 5.41 | Japan | 6.17 | 5.56 | Japan | 6.14 | 5.54 |
| Germany | 5.99 | 5.35 | Germany | 5.88 | 5.30 | China | 6.11 | 5.51 | China | 6.07 | 5.49 |
| France | 4.95 | 4.48 | France | 4.86 | 4.42 | Germany | 5.34 | 4.87 | Germany | 5.31 | 4.85 |
| UK | 4.95 | 4.48 | UK | 4.86 | 4.42 | France | 4.05 | 3.72 | France | 4.02 | 3.70 |
| Italy | 3.25 | 2.97 | China | 3.66 | 3.35 | UK | 4.05 | 3.72 | UK | 4.02 | 3.70 |
| Saudi | 3.22 | 2.94 | Italy | 3.19 | 2.93 | Italy | 3.03 | 2.79 | Italy | 3.02 | 2.78 |
| China | 2.94 | 2.69 | Saudi | 3.16 | 2.90 | India | 2.64 | 2.43 | India | 2.63 | 2.43 |
| Canada | 2.94 | 2.69 | Canada | 2.89 | 2.65 | Russia | 2.6 | 2.40 | Russia | 2.59 | 2.39 |
| Russia | 2.74 | 2.50 | Russia | 2.69 | 2.47 | Brazil | 2.23 | 2.06 | Brazil | 2.22 | 2.05 |
| Nether. | 2.38 | 2.18 | Nether. | 2.34 | 2.15 | Canada | 2.23 | 2.06 | Canada | 2.21 | 2.05 |
| Belgium | 2.13 | 1.95 | Belgium | 2.09 | 1.92 | Saudi Ar. | 2.02 | 1.86 | Saudi | 2.01 | 1.86 |
| India | 1.92 | 1.76 | India | 1.89 | 1.74 | Spain | 1.93 | 1.78 | Spain | 1.92 | 1.77 |
| Switz. | 1.60 | 1.46 | Switz. | 1.57 | 1.45 | Mexico | 1.81 | 1.67 | Mexico | 1.80 | 1.66 |
| Australia | 1.50 | 1.37 | Australia | 1.47 | 1.35 | Nether | 1.77 | 1.63 | Nether. | 1.76 | 1.63 |
| Spain | 1.41 | 1.29 | Mexico | 1.43 | 1.32 | Korea | 1.74 | 1.61 | Korea | 1.73 | 1.60 |
| Brazil | 1.41 | 1.29 | Spain | 1.39 | 1.28 | Australia | 1.34 | 1.24 | Australia | 1.33 | 1.23 |
| Venezuela | 1.23 | 1.13 | Brazil | 1.38 | 1.27 | Belgium | 1.31 | 1.21 | Belgium | 1.30 | 1.20 |
| Mexico | 1.20 | 1.10 | Korea | 1.33 | 1.23 | Switz. | 1.18 | 1.09 | Switz. | 1.17 | 1.09 |
| Sweden | 1.11 | 1.02 | Venezuela | 1.21 | 1.11 | Indonesia | 0.96 | 0.89 | Turkey | 0.95 | 0.88 |
| Argentina | 0.98 | 0.90 | Sweden | 1.09 | 1.01 | Turkey | 0.96 | 0.89 | Indonesia | 0.95 | 0.88 |
| Indonesia | 0.97 | 0.89 | Argentina | 0.97 | 0.89 | Sweden | 0.91 | 0.84 | Sweden | 0.91 | 0.84 |
| Austria | 0.87 | 0.80 | Indonesia | 0.95 | 0.87 | Poland | 0.85 | 0.78 | Poland | 0.84 | 0.78 |
| S. Africa | 0.87 | 0.80 | Austria | 0.86 | 0.79 | Austria | 0.81 | 0.75 | Austria | 0.81 | 0.75 |

(continued)

**Table 3** (continued)

| 2006 (181 countries) | | | 2008 (185 countries) | | | 2016 (189 countries) | | | 2010 Proposals (188 countries) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Weight | Power | | Weight | Power | | Weight | Power | | Weight | Power |
| Nigeria | 0.82 | 0.75 | S. Africa | 0.85 | 0.79 | Singapore | 0.81 | 0.75 | Singapore | 0.80 | 0.74 |
| … | … | … | … | … | … | … | … | … | … | … | … |
| Total | 100.00 | 100.00 | Total | 100.00 | 100.00 | Total | 100.00 | 100.00 | Total | 100 | 100 |
| Gini | 0.7780 | 0.7958 | Gini | 0.7819 | 0.7990 | Gini | 0.7665 | 0.7841 | Gini | 0.7729 | 0.7898 |

All power indices percentages. Power indices have been calculated using the program ipmmle available on the website www.warwick.ac.uk/~ecaae
*Source*: Author's elaboration

**Table 4** Biggest gainers and losers in voting power in Board of Governors

| Gainers | | | | Losers | | | |
|---|---|---|---|---|---|---|---|
| | VP2016 | VP2006 | Change | | VP2016 | VP2006 | Change |
| China | 5.51 | 2.69 | 2.83 | USA | 23.39 | 24.49 | −1.1 |
| Korea | 1.61 | 0.70 | 0.91 | Saudi Arab | 1.86 | 2.94 | −1.1 |
| Brazil | 2.06 | 1.29 | 0.77 | UK | 3.72 | 4.48 | −0.76 |
| India | 2.43 | 1.76 | 0.68 | France | 3.72 | 4.48 | −0.76 |
| Mexico | 1.67 | 1.10 | 0.57 | Belgium | 1.21 | 1.95 | −0.74 |
| Spain | 1.78 | 1.29 | 0.49 | Canada | 2.06 | 2.69 | −0.63 |
| Turkey | 0.89 | 0.41 | 0.47 | Netherlands | 1.63 | 2.18 | −0.54 |
| Singapore | 0.75 | 0.38 | 0.37 | Argentina | 0.42 | 0.90 | −0.48 |
| ... | ... | ... | ... | ... | ... | ... | ... |

*VP* voting power. All figures percentages
*Source*: Author's elaboration

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# The Evolution of the International Monetary Fund in Response to the Global Financial Crisis

**Giuseppe Parigi and Francesco Paternò**

**Abstract** This short essay analyses the evolution of three key aspects of the International Monetary Fund in response to the Global Financial Crisis: (a) the adequacy of its own resources; (b) the shift of representation towards emerging and developing countries; (c) the review of the lending instruments. With respect to each of these topics, we describe the main policy choices which have characterised the past few years and provide our own assessment about them. Our main policy recommendations attain to: (a) the opportunity of preserving the overall size of the Global Financial Safety Net and in particular the role of the IMF; (b) the opportunity of dealing with the legitimacy problem arising from the strong underrepresentation of China at the IMF; (c) the opportunity of a very careful scrutiny for any new lending instrument.

**Contents**



## 1 Introduction

At the end of 2007 the use of the International Monetary Fund (IMF) credit allocated through the General Resource Account recorded an extremely low value, equal to just six billion Special Drawing Rights (SDR; equivalent to about

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nine billion US dollars). This was the result of the successful repayments by Korea, Indonesia, Thailand and Russia of the loans made by the IMF to deal with the Asian Financial Crisis and the Russian crisis at the end of the nineties. It was also the consequence of a prolonged period of financial and macroeconomic stability. The decline of the IMF's outstanding loans and the strong accumulation of foreign exchange reserves, mainly by the Asian emerging and the oil-exporting countries, signalled a progressive loss of relevance of the IMF, which in the middle of the past decade started a downsizing process aimed at reducing its operational costs.

In September 2008 the Global Financial Crisis (GFC) changed dramatically this scenario. Two months later, amid a severe systemic crisis, with rapidly deteriorating economic conditions worldwide, the Leaders of the Group of Twenty (G20) met in Washington DC and agreed to "*stress the International Monetary Fund's (IMF) important role in crisis response, welcome its new short-term liquidity facility, and urge the ongoing review of its instruments and facilities to ensure flexibility*". In the action plan attached to the final declaration of the meeting, an entire section was devoted to the reforms of the International Financial Institutions (IFIs), with a few key recommendations such as: (a) "*We should review the adequacy of the resources of the IMF, the World Bank Group and other multilateral development banks and stand ready to increase them where necessary. The IFIs should also continue to review and adapt their lending instruments to adequately meet their members' need and revise their lending role in the light of the ongoing financial crisis*"; (b) "*We underscored that the Bretton Woods Institutions must be comprehensively reformed so that they can more adequately reflect changing economic weights in the world economy and be more responsive to future challenges. Emerging and developing economies should have a greater voice and representation in these institutions*".

These recommendations singled out three key issues:

(a) the adequacy of Fund's resources;
(b) the shift of representation within the Fund, towards the emerging and developing economies;
(c) the review of the lending instruments of the Fund.

Since then, the three issues have been largely debated; some key decisions—mainly the introduction of the Flexible Credit Line and the Precautionary and Liquidity Line, the 2010 Reforms, the 2012 Borrowing Agreements—have been taken; others, such as the XV General Review of Quotas (GRQ), are under discussion.

In this short essay we illustrate some of the policy choices which have been made and the open issues which are still debated; in so doing, we present our view about the achievement of the objectives defined in the G20 meeting of November 2008.

## 2 The Adequacy of Fund's Resources and the Role of Quotas

Once the systemic nature of the GFC was fully perceived, it was clear that the lending capacity of the Fund had to be enhanced. Three different sets of measures were adopted.

(1) In April 2009 the International Monetary and Financial Committee (IMFC), following an agreement reached by the G20 countries, decided to increase substantially the resources available to the IMF through the New Arrangements to Borrow (NAB) which in April 2010 were expanded to SDR 367.5 billion (IMF 2015a).
(2) In December 2010 the Board of Governors of the Fund approved a package of reforms (the so called 2010 Reforms), including the XIV GRQ featuring a doubling of IMF quotas (from SDR 238.5 billion to 477 billion) and a shift of quota shares towards emerging markets and developing economies (see Sect. 3 below).
(3) In April 2012 the IMFC and the G20 jointly called for further enhancement of the IMF resources through temporary bilateral loans and note purchase agreements; total pledges by 38 members amounted to about US$ 461 billion (IMF 2015a).

While (1) and (3) became effective in March 2011 and in the autumn of 2012,[1] respectively, (2) was completed only in January 2016, because of the delayed ratification by the US Congress of the 2010 Reforms. This sequence of events largely increased the overall amount of IMF's resources, assigning an unprecedented weight to their temporary components. This was partly reverted only in January 2016, when, following the entry into effect of the XIV GRQ, the NAB was rolled-back to about SDR 182 billion.

The size of the overall IMF resources is very important because it determines the positioning of the IMF in the Global Financial Safety Net (GFSN). Indeed, before the financial crisis the main components of the GFSN were the foreign reserves at country level and the IMF's overall (permanent and temporary) resources. After the crisis, new key components came to the fore, such as the Regional Financing Arrangements (RFAs) and the central bank swap lines (Fig. 1).

The development of a wide network of central bank swap lines is not expected to affect the role of the IMF as they are not a substitute for IMF lending to fill balance of payments needs; indeed, swap lines are mainly used by central banks, consistently with mandates typically focussed on domestic monetary and financial stability, to provide foreign currency liquidity to their domestic banking system. On the

[1] More precisely, in the last quarter of 2012, bilateral loan agreements for a total amount equivalent to about SDR 153 billion were signed by Italy, Japan, Saudi Arabia, Germany, Norway, Denmark, China, the Netherlands. Other 27 agreements were signed in 2013, 2014 and 2016 for a total amount equivalent to about SDR 130 billion.

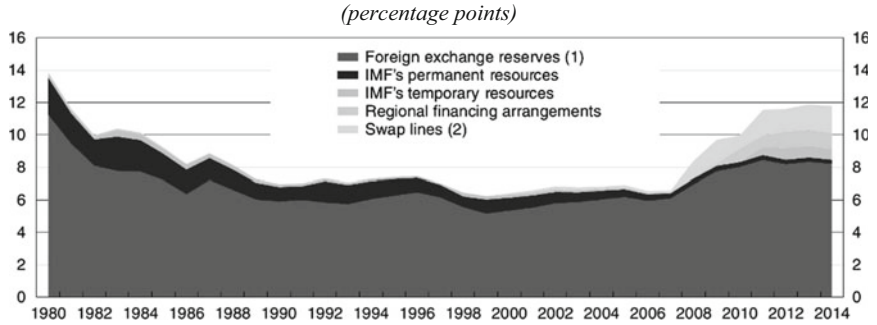


**Fig. 1** Global financial safety net as percentage of international financial liabilities. *Source*: E. Denbee, C. Jung and F. Paternò, 'Stitching together the global financial safety net', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 322, 2016. (1) Does not include gold reserves. (2) The value of the resources provided through swap lines between central banks is estimated by (a) assigning the maximum value reached during the activation periods to the swap lines activated in the past, and (b) assigning an average of the values (in relation to GDP) assigned to the activated swap lines to those that have never been activated

contrary, the RFA could limit the role of the IMF in case of regional crises. However, in presence of a more systemic crisis, the RFA resources may quickly reveal to be insufficient. Indeed, there are at least two reasons justifying the simultaneous use of both IMF and RFA resources. First, in presence of a large shock RFA may not lead to the implementation of very large lending programmes, especially if callable capital plays a large role in the funding mechanism of the RFA. Second, the IMF has a know-how advantage in the design of adjustment programmes with respect to RFAs.

Because of these reasons, some of the most relevant RFAs make explicit the opportunity of a link with the IMF. In particular, the *Chiang Mai Initiative Multilateralization* (CMIM)[2] requires an IMF programme, and the conditionality which comes with that, whenever a country asks for a loan exceeding 30% of the country's total access. In the case of the *European Stability Mechanism* (ESM), the rules are less rigid, but the involvement of the IMF is still largely expected. Indeed, the ESM Treaty stipulates that "*The ESM will cooperate very closely with the IMF in providing stability support. The active participation of the IMF will be sought, both at technical and financial level. A euro area member state requesting financial*

[2]The CMIM is multilateral currency swap arrangement aimed to provide regional short term liquidity, to address balance of payments difficulties and supplementing existing international arrangements. Member countries are: Brunei, Cambodia, Hong Kong, Indonesia, Japan, Laos, Malaysia, Myanmar, the People's Republic of China, Philippines, Singapore, South Korea, Thailand, Vietnam. It is usually classified among the RFAs, not among the central bank bilateral swap arrangements.