# Issues on IMF Governance and Representation: An Evaluation of Alternative Options 

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#### Abstract

The current realities of the global economy are far from being reflected in the Fund's quota structure, with emerging market economies accounting for the bulk of the underrepresentation. This paper explores the characteristics of the representation distortions using cross-section regression analysis and the results indicate that economic growth, population, credit rating and dummies for the US and China, explain most of them. To the extent that the faster growing countries are not recognized as such in their IMF quotas, the distortions will continue to increase. Eliminating such distortions requires adjusting the quota structure in line with the relative participation in global economic activity, but to the extent that individual quotas cannot be reduced, a large increase in total IMF quotas would be required. Simulations performed under the assumption that all advanced economies over represented would accept to reduce their quotas indicate that only about one half of the rate of increase in total quotas would be required. As an initial step towards the elimination of distortions in representation rules for a professional IMF board are proposed, including that all Executive Directors should be elected and be independent from the influence of a permanent employer, that all countries with a common currency be represented by the same ED, and that each chair should represent at least three member countries and at most fifteen. In a scenario using these rules and attempting to preserve the existing regional representation, Advanced Economies would lose three chairs, Emerging Markets would gain two, and Developing Countries gain the remaining one.


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## I. Introduction

The IMF can be represented as an international organization that provides global public goods in the form of macroeconomic surveillance, support for adjustment programs, and technical assistance for the design and implementation of economic and financial policies. Those services are particularly relevant for the emerging market economies (EM) and for developing countries that are particularly exposed to the volatility of global markets, either financial or commodities markets. These countries use the IMF provided services to recover from crisis events, or to improve their resiliency against external shocks. ${ }^{1}$ The work of the Fund contributes to prevent crisis to the extent that surveillance helps to reduce global volatility and better prepare countries to confront external shocks and contagion. However, experience indicates that is in crisis management and recovery where most of the Fund resources and all its financial facilities have been deployed.

The role of the Fund in the global economy has changed dramatically from its foundation more than sixty years ago, adapting to the changing global environment. ${ }^{2}$ From an institution helping advanced economies to correct current account imbalances to an institution devoted to crisis management in emerging market economies and to support reform programs in low-income countries. The institutional role has changed, but what has not changed is the governance structure, which has yet to respond to the new realities of the global economy that implies different clients and different services. The efficient provision of the Fund services requires an appropriate governance structure, in which the preferences views and concerns of member countries can be effectively represented. It is a governance problem that the main users of Fund services are under represented in the decision making bodies. With the voting power in the Fund decision making bodies based on the quota structure, the failure to adapt such structure to the changing world realities generate political problems as a result of distortions in representation. ${ }^{3}$

The distortions of the quota structure have been discussed and well documented. ${ }^{4}$ Of the twelve quota revisions that have been completed during the Fund's 60 plus years of history, only in seven the Executive Board decided that a quota increase was warranted. In those seven occasions the adjustment of individual countries quotas was largely determined in proportion to the existing quotas rather than reflecting any formula

[^1]representing each member country's participation in global economic activity. These quota adjustments have resulted in a steady reduction of the relative importance of the IMF resources relative to global economic activity, and the preservation of the quota structure defined when the institution was founded in 1943. Even more, the significant enlargement in the Fund's membership that took place with the collapse of the Berlin Wall and of the socialist regimes was done in a way of preserving the existing quota structure: The incoming members were matched with member countries of comparable economic size and characteristics and given similar quotas sizes. All this has resulted in a quota structure that does not adequately represent the present global economic reality.

Going beyond the existence and quantification of the distortions in the Fund's quota structure, this paper attempts to better describe their characteristics using a simple statistical approach of multiple correlations. The variables that can be associated to the distortions help to understand its nature and the prospects fort its evolution over time.

The representation of member countries in the decision making at the IMF is no doubt a political problem that requires a political solution. However, the discussion could be greatly improved and the probability of success increased to the extent that rules and incentives are considered in shaping such solutions. In this regard, this paper attempts to explore possible solutions to the problems derived from the quota structure and the deficiencies in representation. First, simulations of alternative rules for adjusting individual quotas and eliminating the existing distortions in the structure of representation are attempted. Second, considering the difficulties in garnering the necessary support to modify the quota structure, possible solutions for the under representation of developing countries and emerging market countries are analyzed by considering different rules for the conformation of jurisdictions at the Executive Board under the existing quota structure.

## II. Distortions in Representation

In an institution with global membership like the Fund and where the decision making has been determined not by one country one vote but on the basis of the financial resources contributed by each country, the relative contributions (quotas) should be defined on the basis of objective rules. The quota formula discussed in numerous occasions by the IMF Executive Board is an effort to define such standard, taking into consideration both the capacity to contribute resources and the eventual need for Fund credit represented by an ample set of variables and different relationships. Unfortunately, not much progress has been made in defining a consensus around a formula and big differences persist as each country tends to defend the definition of the quota formula more in line with its own interests; namely, the one that maximizes its relative quota position. In addition, the different variables included in the quota formula are very much
correlated, so that they all contain similar information which is mainly related to the economic size of each member country ${ }^{5}$.

To simplify matters and to avoid entering in a discussion of quota formulas that would require another paper, the view taken in this article is that a single scale variable can be used to represent the relative importance of each member country in the global economy. That variable is the value of all final goods produced in each country every year, the Gross Domestic Product or GDP. The GDP in national currencies is readily available and there are no major controversies on its definition, apart from some methodological issues of interest for specialist in the field. However a different matter is the exchange rate used to convert GDP in national currency into an international comparable unit. To the extent that we were to measure income and purchasing power of each country, then market exchange rates ought to be used to convert national GDP into a single globally comparable accounting unit like the SDR. Incidentally, to measure purchasing power in each country more than GDP the variable of choice would be National Income or GNP at market exchange rates. However, if we want to measure economic activity or the generation of goods and services, the variable of interest is GDP converted at a globally comparable accounting unit using an exchange rate that maintains purchasing power parity (PPP). With PPP exchange rates, goods and services are valued at comparable prices across countries then GDP-PPP is a measure of real economic activity that is comparable across member countries.

Moreover, GDP at market rates is quite volatile as market exchange rates have wide swing over time, while PPP exchange rates are more stable. The problem with PPP rates is related to their availability and the quality of the statistics. The PPP rates can change significantly when the price surveys in which the estimates are based are revised. A more frequent revision of the surveys would result in more reliable statistics. In any case, the IMF World Economic Outlook database present estimates of GDP-PPP for almost all member countries, and the paper uses the average GDP-PPP over the period 2000-04 ${ }^{6}$.

Using GDP-PPP, the current realities of the global economy are far from being reflected in the Fund's quota structure. There are significant deviations in the composition of GDP and quotas implying that the representation of the membership in the Fund's decision making bodies presents important distortions. The degree of over representation is defined as the difference between each member country quota share and its share of global GDP-PPP. Of course the over representation ads-up to zero, but it varies widely from a maximum of 2.76 to a minimum of -9.55 , see table 1 . Advanced economies account for the bulk of the over representation (9.32), although a large advanced economies like the US is under represented, emerging market countries (EM) account for the bulk of the under representation (-12.56), while Developing countries are in a more neutral position. Advanced economies were defined as those with sovereign debt rated in the first two grades (AAA and AA in Standard and Poor's' denomination), emerging

[^2]market countries were defined as those with sovereign debt rated in intermediate grades (between A and C in the same denomination), while developing countries were defined as those without access to international markets, they have a credit rating of selective default (D) or have not been rated. ${ }^{7}$

Table 1: Over Representation based on GDP-PPP
(In percent)


Table 2. Representation at the IMF Executive Board (In Percent)

Share of Voting Power Share of GDP-PPP

## Advanced Economies <br> 11 Exec Directors (*)

63.3
53.2

## Emerging Market

 Economies 10 Executive Directors (**)Developing Countries 3 Executive Directors (***)
4.8
(*) Including EDs from the US, Germany, France, UK, Italy, Japan, Norway, Belgium, Netherlands, Canada and Switzerland.
(**) Including EDs from Brazil, India, Indonesia, China, Russia, Iran, Egypt, Mexico, Korea, and Saudi Arabia)
${ }^{(* *)}$ Including EDs from Equatorial Guinea, Argentina, and Tanzania.

## Source IMF.

The density of representation in the Executive Board is also an issue, in some cases more than 20 countries are represented by one ED, in other cases the ED represents only one country. In the multi country constituencies there could be differences of views, but at the end is the ED's opinion the one that will prevail. Consequently, at the level of the

[^3]Executive Board the distortions in representation can then be considered even more marked if the nationality of the Executive Director is used to judge the representation of each country group. Advanced economies control 63 percent of the Boards voting power, while they represent only 53 percent of global GDP-PPP, see table 2. Emerging market economies control 30 percent of the Board's voting power while they represent 42 percent of global GDP-PPP. Finally, developing countries account for 6 percent of the voting power and for 4.5 percent of global GDP-PPP, but developing countries can be considered as being in a rather neutral position. ${ }^{8}$

## III. Explaining the Distortions

After growing faster than other groups, particularly the advanced economies, and accumulating more international reserves, the emerging market countries appear as the group more deeply affected by under representation at the IMF decision making bodies. However the representation distortions are a political problem and not just an issue of the country type. Some emerging market countries are over represented and some advanced economies under represented, consider Japan that has a quota similar to that of Germany, but a much larger GDP. Consequently, other variables may play a role in explaining or characterizing this distortion therefore to be able to better represent the general characteristics of the countries that are under- and over-represented a wide set of potential explanatory variables is used in a cross-section multiple regression against the over representation variable (OR). Naturally there could not be any claim of a causal relationship from the explanatory variables to OR, or vice versa, or a theoretical model that can be used to define the explanatory variables. The idea is to use a pure statistical method to better characterize the existing over-representation through the variables with which OR is statistically associated in a multiple regression setting. .

The explained variable OR is defined by the difference between each country share in the IMF quota and its share of GDP-PPP. The set of explanatory variables includes regional factors (continent, dummies for specific countries), social factors (per capita income, and population), financial factors (credit ratings, international reserves, and Fund net asset position) and the country type (Advanced, Emerging, and Developing). The results of estimating the multiple regressions presented in Table 3, basically indicate that altogether the set of variables considered explain the bulk of the over representation in the IMF quota structure. The overall goodness of fit measured by a corrected R-squared above 80 percent is more than adequate for a large cross section sample like the one used. As expected, other variables in addition to the country group are important to explain overrepresentation; in particular, average economic growth over the last 20 years appears to be a highly significant explanatory variable. The faster a country grows over the long term, the lower is the OR variable, or the larger is its degree of under-representation. Thus growth laggards tend to become over represented while rapidly growing economies

[^4]under-represented. In addition population also appears as an important factor of under representation, more populous countries tend to have a lower OR, and this effect remains even when a specific dummy variable is introduced to account for the largest two underrepresented countries, China and the US. Maybe a result just of chance, but the fact is that the representation distortions of today weight against countries with a large population.

Table 3. Multiple Regression for Over representation at the IMF $\boldsymbol{a} /$
Method: Ordinary Least Squares (Cross Section Data for 184 countries)

|  | Equation 1 | Equation 2 |
| :---: | :---: | :---: |
| Dependent Variable Over Representation |  |  |
| Constant | 0.8366 | 0.8119 |
|  | (0.002) | (0.000) |
| Growth | -0.031 | -0.0318 |
|  | (0.057) | (0.023) |
| Emkt. C. | -0.2905 | -0.2495 |
|  | (0.160) | (0.000) |
| Dev C. | -0.120 | -- |
|  | (0.708) | (--) |
| Europe | -0.0637 | -- |
|  | (0.594) | (--) |
| GDP pc | 0.0000 | -- |
|  | (0.896) | (--) |
| Population | -0.0033 | -0.0033 |
|  | (0.000) | (0.000) |
| Net Inter. Reserves / GDP | -0.3312 | -- |
|  | (0.362) | (--) |
| Net Pos IMF | 0.0002 | -- |
|  | (0.293) | (--) |
| Credit Rating | -0.0611 | -0.0781 |
|  | (0.237) | (0.000) |
| Dummy for China | -5.2387 | -5.3055 |
|  | (0.000) | (0.000) |
| Dummy for the US | -3.7086 | -3.639 |
|  | (0.000) | (0.000) |
| Adjusted R ${ }^{2}$ | 0.839 | 0.842 |
| Durbin-Watson statistic | 1.786 | 1.756 |
| N | 154 | 166 |

Source: Estimations by the author.
a/ Figures in parentheses correspond to P -values.

Financial variable like the position at the IMF and credit rating tend to be a factor of over representation of more advanced economies. Net creditors to the IMF tend to be over represented, but the statistical significance of this effect is doubtful. ${ }^{9}$ Credit rating has a negative sign, implying that those countries with a lower credit rating score ( 1 for those rated AAA) tend to be over represented and those with a high score ( 8 for rated D or not rated) tend to be under represented. Finally, the under representation of the US and China is significant and cannot be explained by the other characteristics considered, as the dummy variables included for those countries appear quite significant.

The effect of several variables considered on the OR variable are not statistically significant in the multiple regression setting. This includes net international reserves, that despite the high level of them held by emerging market in general and Asian countries in particular, it does not contribute to explaining over representation. Moreover, the country net asset position at the Fund; the characteristic of being a developing country; per capital GDP; and the European Dummy (applied to all European countries) are not significant explanatory variables of O.R. It is interesting to note that over representation is not a characteristic of all European countries, some of them are under represented. Given that the results may be affected by multi-collinearity due to the high correlation between some of the explanatory variables like per capita GDP and developing countries, exclusion restrictions were introduced eliminating the variable that presented "t-test" with absolute value between zero and one. Since those explanatory variables are not significantly related with the degree of over representation, they were excluded from the second regression performed on a narrow set of variables. The results are reported in Table 3, equation 2 .

After eliminating variables with a low statistical significance in the OR regression, only growth, the condition of being an emerging market country, population, credit rating and dummies for the US and China were left as explanatory variables. All of them have highly significant effects on the OR variable, but perhaps they mask the under representation affecting some developing countries that could be captured in the effect of the credit rating variable. The credit rating variables was precisely used to define developing countries as those with a higher CR value, and its effect on OR has a negative sign.

There are some interesting conclusions that can be obtained from these results. The existing distortions in representation can be associated with incentives that may have important consequences for a global institution like the Fund. To the extent that the faster growing countries are not recognized as such in terms of their IMF quotas, and that the faster growing countries continue to be those that are already under represented, the distortions will continue to increase. Consequently the IMF runs the risk that those countries that gain importance in the global economy and are not recognized as such by the quotas, may decide to look for substitutes of Fund like services. Some initiatives associated to the creation of regional monetary funds have already been advanced by

[^5]Asian countries. The forces behind such initiatives may become stronger the larger are the representation distortions at the IMF, attracting more countries to the idea of joining substitutes. A larger and regionally more diversified base may eventually succeed in creating a multi regional emerging market monetary fund, including, for example, countries represented in the Asia Pacific Cooperation, APEC, or in some other multiregional organization. The provision of global public goods by other than a single global institution would clearly be a sub optimal outcome that should be avoided. First, because pooling resources from a more limited group of countries increases he risk ht all of them require financial support at the same time, and second because there would be repeated efforts in the provision of surveillance and technical assistance The efficient provision of global public goods requires a single international monetary fund with a solid governance structure and hence no distortions in representation.

Population is growing faster in developing and emerging markets countries than in advanced economies. The political representation of an institution like the Fund is already under question by those that defend the principle of one country one vote or one man one vote for the IMF power structure. In principle the Fund could claim that its voting structure is neutral against the population size of countries, as relative economic importance of countries and not determines its quota structure. However, with the existing distortions in representation, the Fund voting structure appears to discriminate against more populous countries. They tend to have a lower representation than the one that would be determined by their relative economic importance.

To address the governance issue related to the representation distortions at the Fund the more radical action would be adjusting the quota structure over time so as it converges towards the relative participation in global economic activity of different countries. In addition, regular changes in quotas every two to three years would be required for the quota structure to continue responding to the innovations in the composition of global economic activity. However, given the political opposition to change in quotas in general in advanced economies, as well as the resistance of countries to accept the reduction in their political influence at the Fund, a substantial reform in the quota structure would take time to become effective. Some alternatives could be considered to minimize the effect of existing distortion in the mean time; these include modifying the structure of the Executive Board under new rules to elect Executive Directors, while keeping the quota structure unchanged. The next two sections of the paper explore ways for modifying the quota structure and initiatives to modify the structure of the Executive Board so as to improve governance and address the distortions in representation.

## IV. A Representative Quota Structure

It is important to note that given the characteristics of the representation distortions it would not be possible to eliminate or reduce them significantly without modifying the quota structure. The allocation of additional basic votes to each country that would benefit small countries at the expense of the larger ones would not reduce the degree of under representation of emerging market countries, or the one affecting the faster
growing countries, and even less that of the big member countries that are under represented. Allocation of additional basic votes equivalent to $9 \%$ of the total voting power would minimally reduce the maximum over representation, but would not reduce the maximum under representation and the standard deviation of the OR variable ${ }^{10}$. The allocation of Basic Votes modifies the distribution of power in favor of developing countries and against advancing countries, leaving the participation of emerging markets barely unchanged. For that reason the existing distortions in representation as measured by the OR variable remain almost unaltered. In that sense an increase in basic votes could be part of a reform package that could not exclude a revision in the quota structure.

# Table 4. Basic Votes Adjustment and Over Representation Simulation of allocating $9 \%$ of the voting power in Additional Basic Votes 

(In percent unless otherwise indicated)

| Max Over Representation | 2.74 | 2.47 |
| :--- | :---: | :---: |
| Min. Over Rep. | -9.57 | -9.81 |
| Std Dev Over Rep. | 0.92 | 0.97 |
| Advanced Share | 61.1 | 57.5 |
| Emerging Markets Share. | 29.3 | 29.7 |
| Dev. Countries Share. | 9.6 | 12.8 |

Source IMF and author's calculations.
$\begin{array}{ll}\text { Initial Conditions } & \begin{array}{l}\text { After Increase in } \\ \text { Basic Votes }\end{array}\end{array}$
2.47
-9.81
0.97
57.5
29.7
12.8

Only through changes in the quota structure can the existing degree of representation distortions be significantly reduced. An important element to be noted is that given the size of the initial distortions more frequent quo reviews would be required, increasing to every other year the frequency of quota reviews. By so doing not only the quota structure would be ore in lime with the participation in economic activity, but also the quota size could be more representative of the current realities of the global economy.

Most likely simplicity works best to represent the adequate quota structure, with GDP at PPP exchange rates as the preferred indicator of economic activity in member countries. Adding other variables like those used in the quota formulas may contribute some complexity and refinement, but not modify the essence of the problem, particularly considering the high correlation existing between GDP-PPP and the other variables considered. ${ }^{11}$ Moreover, to avoid falling in the typical quota formula discussion, in which the variables are selected to maximize the participation of the own country in the quota structure, is better to take a simple and objective rule. This paper uses just GDP at

[^6]PPP exchange rates as the best representation of economic activity across the Fund membership.

Even GDP-PPP may have some cyclical volatility that can be smoothed out by using 5year averages (the last 5 years for which information is available) to better represent trends in the participation of countries in the global economy. For the purpose of this exercise averages for 2000-2004 World Economic Outlook data base of September 2004 will be used. An exercise based on official GDP data would require using data with some lags.

Having the 2000-04 shares in global GDP the problem is how to adjust the quota structure so as to represent actual country shares in global economic activity. Perhaps the most significant political constraint faced to adjust the quota structure is that countries that are over represented may dislike the idea of seeing their participation in the decision making bodies sharply reduced. Since no member country can be forced to reduce its quota, the adjustment in the structure would tend to be expansionary of the total amount of quotas. It can be argue that this is precisely what the Fund needs in order to better perform its role of providing global stability; however larger shareholders have been resisting any significant adjustment in the total size of the Fund.

Table 5. Quota Adjustment Exercise, Simulation without Reductions of Individual Quotas Scenario (In percent unless otherwise indicated)

|  | Initial <br> Conditions | Round 1 | Round 3 | Round 5 | Round 7 | Round 10 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| Max Over Rep. | 2.74 | 2.03 | 1.39 | 1.02 | 0.77 | 0.52 |
| Min Over Rep. | -9.57 | -4.65 | -2.59 | -2.06 | -1.76 | -1.40 |
| Std Dev Over Rep. | 0.92 | 0.49 | 0.29 | 0.22 | 0.19 | 0.15 |
| Quotas (SDR Bill.) | 212.8 | 271.4 | 361.7 | 447.3 | 534.2 | 657.7 |
| Delta Quotas acumm. | -- | 27.56 | 69.99 | 110.20 | 151.03 | 209.08 |

## Source: Author's

calculations.
The simulations were performed considering two types of quota adjustments. First, the quota adjustment to compensate for under representation was applied to all the countries with a degree of over representation of less than -0.1 percent of total quotas ${ }^{12}$. The quota adjustment applied for them consisted in minus their degree of over representation times the amount of total Fund quotas. In that way if nothing else were to change that particular country would see it's under representation completely corrected. Second a proportional quota adjustment was applied to those countries with a degree of over

[^7]representation between -0.1 percent and plus 0.1 percent to compensate for the increase in total quotas resulting from the global quota adjustment so that their participation would remain stable. The proportional increase in individual quotas for countries within the range of adequate representation was set equal to the rate of change in total quotas resulting from both types of quota adjustment. Third, the member countries with a degree of over representation above 0.1 percent would not have their quotas adjusted so that their participation would be gradually diluted and their degree of over representation would converge towards the $+/-0.1$ percent range.

Simulations performed indicate that to the extent that the quota structure is modified by quota increases only, that is all the over represented countries reject the idea of reducing their nominal quotas, a 210 percent increase in total IMF quotas would be required to reduce the maximum over representation from the equivalent to 2.7 percent of total quotas to 0.5 percent. At the same time the minimum over-representation (or maximum under representation) would shrink from -9.7 percent to -1.4 percent, while the standard deviation of the over-representation variable would fall from an initial value of 0.92 to 0.15 . See Table 5.

Repeating the quota adjustment exercise of the type suggested above would result in a gradual convergence of the quota structure to the GDP-PPP structure. Under the conditions of the simulation exercise, 10 rounds of quota adjustments were required to yield the commented convergence. So, if the quota adjustment is performed every other year, after twenty years the quota structure would present distortions of less than $1 / 6$ of their initial value, if the standard deviation of OR is used to represent the degree of distortion. In the real world however the ten rounds of the simulations could be carried out in just one adjustment, the question is whether member countries will agree to increase their individual quota in such a way that total quotas would more than triplicate.

Table 6. Quota Adjustment Exercise, Simulation with Voluntary Reductions of Individual Quotas (In percent unless otherwise indicated)

|  | Initial <br> Condit. | Round 1 | Round 3 | Round 5 | Round 7 | Round 10 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Max Over Rep. | 2.74 | 2.33 | 1.77 | 1.39 | 1.11 | 0.82 |
| Min Over Rep. | -9.57 | -2.69 | -2.10 | -1.78 | -1.54 | -1.34 |
| Std Dev Over Rep. | 0.92 | 0.32 | 0.26 | 0.22 | 0.20 | 0.17 |
| Quotas (SDR Bill.) | 212.8 | 243.2 | 302.3 | 361.8 | 422.1 | 514.0 |
| Delta Quotas acumm. | -- | 14.31 | 42.05 | 70.05 | 98.35 | 141.55 |

Source: Author's calculations.

A second quota adjustment exercise is considered on the basis of voluntary quota reductions and presented in Table 6. Each country that is under-represented in the quota structure, degree of over representation of less than -0.1 percent, receives the quota increase that would eliminate it's under representation if no other adjustment were to take
place. The member countries with degrees of over representation between - 0.1 percent and +0.1 percent would be subject to the proportional quota increase along with the change in total quotas. Finally, those countries that are over-represented, degree of O.R. greater than 0.1 percent, can voluntarily reduce their quotas to the value that would completely eliminate their degree of over representation if no other quota adjustment were to take place. Those that reduced their quotas would also receive a fraction of the proportional quota increase so as to ensure that their degree of over representation, after the quota adjustments of all countries, stays within the $+0.1,-0.1$ interval.

An on demand total quota increase would result to the extent that some of the countries over-represented decide not to reduce their quotas. In practice the total quota will increase until the over representation of countries that decide not to reduce their quotas is completely diluted through larger quotas of other countries. The simulations were performed under the assumption that all advanced economies over represented would accept to reduce their quotas, while emerging markets and developing countries in that condition would elect not to reduce their quotas. Of course, to the extent that fewer countries would volunteer to reduce their quotas the results would converge towards those of the first simulation. The results in Table 6 and in general terms indicate that the voluntary reduction scenario would allow similar results to those of scenario 1 in respect to reducing the distortions in representation, as judged by the Maximum, Minimum and Standard Deviation of the degree of over representation. However in this scenario a much lower rate of increase in total quotas is required, 140 percent, because of the voluntary quota reduction implies that a lower dilution effect is required to eliminate over representation.

Table 7. Quota Adjustment Exercise, Simulation with Mandatory Reductions of Individual Quotas (In percent unless otherwise indicated)

|  | Initial <br> Condit. | Round 1 | Round 3 | Round 5 | Round 7 | Round 10 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Max Over Rep. | 2.74 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| Min Over Rep. | -9.57 | -0.57 | -0.20 | -0.14 | -0.15 | -0.12 |
| Std Dev Over Rep. | 0.92 | 0.06 | 0.04 | 0.04 | 0.04 | 0.04 |
| Quotas (SDR Bill.) | 212.8 | 218.5 | 223.6 | 227.2 | 228.7 | 231.3 |
| Delta Quotas acumm. | -- | 2.70 | 5.08 | 6.75 | 7.49 | 8.71 |

Source Author's calculations

Finally, the third scenario considered in addition to the quota adjustments to all under represented countries ( $\mathrm{OR}<-0.1$ percent), a mandatory reduction of quota to all countries over represented (OR $>+0.1$ percent). This mandatory quota reduction would require a modification in the Articles of Agreement of the Fund, however his scenario is indicative of what would happen in the voluntary reduction scenario to the extent that more and more of the over represented countries opt for the voluntary reduction. No proportional quota adjustments were considered in this scenario given that no quota dilution effect was required. The results indicate a much sharper reduction in the representation distortions, with the maximum, minimum and standard deviation of O.R. converging towards zero.

At the same time the total increase in quotas required to produce this result was of less than 9 percent in ten adjustment rounds. The plus minus 0.1 percent tolerance for the quota adjustments is the reason behind the not immediate convergence to zero of all the indicators of distortions in representation. There seems to be a number of small developing countries with over representation of less than 0.1 percent weighting against a few large under represented countries. See appendix IIC.

The three quota adjustment scenarios considered yield similar results. In all of them advanced economies see their share in Fund quota reduced as a result of their initial over representation, however in none of the scenarios advanced economies loose the absolute majority they presently hold. Also in the three scenarios emerging markets economies gain participation at the expense of advanced economies and to some extent to developing countries also, the latter group see their share in total quotas reduced as the quota structure converge towards that of GDP-PPP. Regionally the quota adjustment scenarios imply gains in participation for Asia and Oceania and to a lesser extent for the Western Hemisphere, and losses for Europe and Africa and the Middle East. Such an outcome is the result of strictly applying the participation in global GDP-PPP as the criteria for representation. Accordingly faster growing economies tend to increase their participation in decision making bodies at the IMF.

## Table 8. Quota Shares in Adjustment Scenarios

(In percent)

|  | No q | Voluntary q | Mandatory q |
| :--- | :--- | :--- | :--- |
| Original | Reduction | Reduction | Reduction |


|  |  | 51.46 | 51.75 | 52.42 |
| :--- | ---: | ---: | ---: | ---: |
| Advanced Econ. | 62.14 | 51.37 | 40.94 | 41.57 |
| Emerging Mkts. | 29.27 | 7.17 | 7.30 | 6.01 |
| Developing Count. | 8.59 | 27.39 | 27.93 | 26.68 |
| Europe | 39.88 | 32.35 | 31.21 | 33.49 |
| Asia and Ocean. | 19.01 |  |  |  |
| Africa And Mid. | 14.58 | 10.74 | 10.96 | 9.12 |
| East |  |  | 29.90 | 30.70 |

Source: Quota adjustment simulations

Applying these rules the representation of several groups become reduced, that is the case of Europe and Africa and the Middle East, as well as Advanced Economies and Developing countries. These rules would open the possibility for them to get better represented to the extent that their growth rates pick-up. To the extent that it is politically unacceptable that the representation of smaller countries falls further, an increase in basic votes would be the instrument to apply, however in such a case the losses of advanced economies and Europe would be even more pronounced.

The reform of the quota structure requires a political consensus that is very difficult to obtain, and even if it is obtained most likely the adjustment would be rather slow. The first barrier to overcome is the resistance of advanced economies that control the absolute majority to changes in the quota structure. First, because of the losses in participation implied by the adjustment for many advanced economies and for them as a group and second because of the political opposition to an increase in quotas in the advanced economies whose quotas would be increased. A possible way out is that advanced economies agree to voluntarily reduce their quotas to allow the adjustment in the quota structure with a lower increase in total quotas required to eliminate the major distortions. Then the exposition to financial risk of advanced economies in the operations of the IMF would be reduced together with their quotas. One remaining problem could become an important barrier, the larger member country, the US, would be eligible for a sizeable quota increase under the different scenarios, even in the one of mandatory quota reduction. It remains to be seen whether the political resistance observed in the US Congress against any increase in resources contributed to the IMF can be overcome by a larger participation in the institution's decision making bodies.

With all the obstacles and the delays that will most likely affect a revision in the quota structure, as an initial step towards the elimination of distortions in representation a reform at the level of the Executive Board could be considered.

## V. An Independent and Professional Executive Board.

The Fund Executive Board is a technical body in which highly competent professionals and well informed people defend the interests of the countries they represent. However, the way that incentives are set, Executive Directors respond primarily to their own country and to the one that controls the bulk of the voting power of their chair. Otherwise they would not be re-elected, nor receive the nomination to the next post in their careers as national civil servants. To some extent the problem of representation of emerging market and developing counties in the IMF can be confronted improving the effectives of their representation at the level of the Executive Board. As it was shown, the sum of developing and emerging market countries are under represented in the quota structure. Moreover, at the level of the Executive Board and considering the nationality of the Executive Director as the defining variable, their under representation is more marked. It is possible to argue that a Board composed by "independent and professional EDs" as opposed to "political EDs" typically national civil servants representing single member countries, would help in bridge the representation gap affecting emerging markets and developing countries ${ }^{13}$. At the same time there are issues of effectiveness of the representation since chairs representing a large number of developing countries contrast against single country chairs of advanced nations.

[^8]All the rules for electing the Executive Board that are proposed and considered below could not become effective unless a political consensus on the need for changes is obtained. In some cases the new rules may require modification of the Articles of Agreement.

Under the Independent and Professional Board all Executive Directors should be elected, thus eliminating the ED nominations by the largest 5 advanced economies (USA, Germany, France, UK ad Japan). If all executive Directors were to be elected and none of them were nominated as a representative of a single country and if the rules ensure also independence from the influence of a permanent employer as a requisite to become ED, some improvements in representation could materialize under the same voting structure. The Professional ED, as opposed to the ED in mid-career for the Treasury or the Central Bank of any given country, could represent effectively not only his or hers own country but others as well. As he or she would not have to follow instructions from a single source, the professional ED is in a better position to balance the interest of the whole constituency and seek consensus among members of the Board. Consensus building at the level of the Executive Board is an important tool to improve the decision making process in the institution. It must be noted however, that the Professional Board would be fully accountable, first because all important decision have to be confirmed by the Board of Governors, which should be the instance of political representation. And second because the ED would have to seek reelection after a few years. At this respect more independence could be granted at the expanse of some accountability through longer terms in office for EDs and the prohibition of re election. However well founded proposals along these lines have not receive significant support. ${ }^{14}$

Some additional conditions for forming the Executive Board chairs could be considered on the basis of the Fund being a Monetary Institution. All countries that have a common currency and thus a common monetary policy should be represented by the same Executive Director at the Board of the Global Monetary Institution. Whether the use of a common currency is the result of a bilateral or multilateral treaty, or just of the unilateral decision of one country to adopt the currency of the other, the fact is that they all have a common monetary policy and can benefit from information exchange and coordination. Belonging to the same chair at the Fund Executive Board would facilitate such exchange and create instances for coordination, either improving existing channels or creating new ones for information sharing among members of the currency union. Moreover at the Executive Board such policies can be represented by a single chair, favoring the discussions. In this regard, all countries that have adopted the Euro should be represented by the same chair. Similarly, all the countries that use the U.S. dollar as their official currency should also be represented by the same Executive Director.

In addition, requirements of minimum and maximum density of country representation in each ED chair are required for a better representation. Single country chairs play a very limited role in coordinating decisions or contributing to consensus building often acting under well defined instructions of their Governor. Extremely large chairs of more than 20 member countries result in a heavy burden for the ED that has to stretch resources in

[^9]the attempt to represent such large constituencies. For a more effective representation and hence better governance conditions, an ED should represent at least three countries and at most fifteen countries ${ }^{15}$. These limits in the number of countries per constituency would improve the effectiveness of chairs by avoiding the concentration of a large number of countries under a single representation and forcing the coordination of members by each and every chair.

Applying the rules set to the selection mechanism, a market for EDs and representation would be created. Each ED would need to keep the confidence of the represented or otherwise risk not to obtain the required votes to be elected, or attract the support of the minimum of three countries considered. For those that represent constituencies arranged within a single currency area, the name that better represent the group would be in competition, and forms of rotating representation agreement between the members are also possible.

Table 9. Independent-Professional Board Scenario

|  | Share of Voti Current Board | ng Power Prof. Board | Number Current Board | of Chairs Prof. Board |
| :---: | :---: | :---: | :---: | :---: |
| Advanced Economies | 63.3 | 61.7 | 11 | 8 |
| Emerging Market |  |  |  |  |
| Economies | 30.3 | 31.9 | 10 | 12 |
| Developing Countries | 6.4 | 6.4 | 3 | 4 |
| Total | 100.0 | 100.0 | 24 | 24 |

There are many possible solutions under this rules, as only two chairs are clearly defined, those of the Euro and the dollar. A simulated Board was generated using the proposed rules and attempting to preserve as much as possible the existing structure in terms of the regional representation at the Board. Its details are presented in Annex III only as a reference of the type of results that could be expected. Some competition may be generated in between the different regions to increase their representation, and perhaps some transversal representation of countries may arise. In any case the scenario presented seems to be stable, that is under the assumed rules the large chairs cannot be divided into two or more chairs with voting power greater than those of the African chairs (the smallest ones). That is because of the minimum number of member countries

[^10]by constituency, the concentration of countries with a common currency in a single chair, and the indivisibility of the voting power of larger constituents.

The Board would retain the 24 Chairs. In the simulation the Chair with the largest voting power would be the Euro Chair, and the one with the lowest the smallest of the three African Chairs. Under the new Board composition the participation of emerging markets would slightly increase to 31.9 percent of the voting power at the Board level, basically as the result of reducing the representation of advanced economies to 61.7 percent, See Table 8.

Under the new rules the number of chairs controlled by advanced economies would fall from 11 to 8, thus allowing EM (most from Eastern Europe) to take control of two chairs in which they were previously represented by one advanced economy. A third chair previously controlled by one advanced economy (Italy) is assumed to be taken by a group of EMs including Korea, but that implies that the chair previously under the control of Korea, is taken by Australia, an advanced economy hence neutralizing the additional gain by EMs.

The number of chairs controlled by developing countries would increase from 3 to 4 , but their representation would stay stable. The number of chairs controlled by developing countries would increase as a reflection of the limits between 3 and 15 of the number of countries in each chair allowing a third African chair to reduce the concentration in representation that affect developing countries.

Some minimum advances in representation and in the working of the Executive Board can be obtained by imposing a number of rules to ensure a professional Board that improves incentives to represent emerging market and developing countries. A key role is played by the imposition of limits to the number of countries in each constituency and conditions to ensure the independence of the Executive Director.

## VI. Concluding Remarks

Using GDP-PPP to represent the participation of each member country in global economic activity, the current realities of the global economy are far from being reflected in the Fund's quota structure. Advanced economies account for the bulk of the over representation, emerging market countries for the bulk of the under representation, while Developing countries are in a more neutral position. At the level of the Executive Board the distortions in representation can be even more marked as chairs controlled by advanced economies represent a large number of emerging markets and developing economies.

To explore the general characteristics of the countries that are under- and overrepresented a cross-section regression is attempted. The results basically indicate that economic growth, population, credit rating and dummies for the US and China, all with negative signs and thus associated to under-representation, are highly significant in
explaining representation distortions. The distortions in representation can be associated with perverse incentives. To the extent that the faster growing countries are not recognized as such in terms of their IMF quotas the distortions will continue to increase. Consequently the IMF runs the risk that those countries that gain importance in the global economy and are not recognized may decide to look for Fund substitutes in which they could be better represented. In addition, while population is growing faster in developing and emerging markets countries than in advanced economies, already the existing distortions in representation indicate that the Fund voting structure appears to discriminate against more populous countries.

To address the representation distortions the more radical action would be adjusting the quota structure in line with the relative participation in global economic activity of different countries. The allocation of additional basic votes to each country would not reduce the degree of under representation of emerging market countries, or the one affecting the faster growing countries, and even less that of the big member countries. The allocation of Basic Votes modifies the distribution of power in favor of developing countries and against advancing countries, leaving unchanged the participation of emerging markets.

Perhaps the most significant problem to adjust the quota structure is that those that are over represented may reject the idea of seeing their participation sharply reduced. To the extent that the quota structure is modified by quota increases only, a large increase in total IMF quotas would be required to significantly reduce over representation. Repeated quota adjustment exercise would result in a gradual convergence of the quota structure to the GDP-PPP structure. Under the conditions of the simulation exercise, ten rounds of quota adjustments and more than tripling existing quotas were required to reduce distortions in representation to $1 / 6$ its original value. A second quota adjustment exercise is considered on the basis of voluntary quota adjustments. The total quotas will increase until the over representation of countries that decide not to reduce their quotas is completely diluted through the increase in quotas of other countries. The simulations were performed under the assumption that all advanced economies over represented would accept to reduce their quotas and the results indicate that the voluntary reduction would allow a similar cut in the degree of over representation, but requiring about one half of the rate of increase in total quotas. Finally, the third scenario considered a mandatory reduction of quota to all countries over represented, and then a much sharper reduction in the representation distortions is obtained with a very small increase in total quotas.

The reform of the quota structure requires a political consensus that will be difficult to obtain. As an initial step towards the elimination of distortions in representation a reform at the level of the Executive Board could be considered. In that sense a less political and more professional and independent Board would contribute to reduce distortions in representation by better defending the views of smaller economies. At the same time effectiveness can also be improved reducing the size dispersion among the chairs. The rules considered that all executive Directors should be elected and none nominated as a representative of a single country, that independence from the influence of the permanent
employer is a requisite to effective representation of more than one country, that all countries that have a common currency and thus a common monetary policy should be represented by the same Executive Director, and finally that each ED chair should represent at least three member countries and at most fifteen.

There are many possible solutions under these rules, as only two chairs are clearly defined, those of the Euro and the dollar. The new Board was generated attempting to preserve as much as possible the existing structure in terms of the regional representation. The Board would retain the 24 Chairs; the Chair with the largest voting power would be the Euro Chair, and the one with the lowest the smallest of the three African Chairs. Under the new Board composition the participation of emerging markets would slightly increase, basically as the result of reducing the representation of advanced economies. Under the new rules the number of chairs controlled by advanced economies would fall from 11 to 8, thus allowing EM to take control of two additional chairs and developing countries would obtain the other.

Some advances in representation and in the working of the Executive Board can be obtained by imposing a number of rules to ensure a professional Board that better represent all member countries, even under the existing quota structure. A key role is played by the imposition of limits to the number of countries in each constituency and conditions to favor the independence of the Executive Director.

| COUNTRYNAME | Credit <br> Rating | Dev \& |  |  | Advanc |  | Net IMF <br> Position |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Emkt | LDCs | EMCs | Econ | Europe |  |
| ALBANIA | 8 | 1 | 1 | 0 | 0 | 1 | -118.02 |
| ALGERIA | 8 | 1 | 1 | 0 | 0 | 0 | -46.20 |
| ANGOLA | 8 | 1 | 1 | 0 | 0 | 0 | 0.00 |
| ANTIGUA AND |  |  |  |  |  |  |  |
| BARBUDA | 8 | 1 | 1 | 0 | 0 | 0 | 0.05 |
| ARGENTINA | 7 | 1 | 0 | 1 | 0 | 0 | -493.42 |
| ARMENIA | 8 | 1 | 1 | 0 | 0 | 0 | -157.00 |
| AUSTRALIA | 2 | 0 | 0 | 0 | 1 | 0 | 42.68 |
| AUSTRIA | 1 | 0 | 0 | 0 | 1 | 1 | 41.16 |
| AZERBAIJAN | 5 | 1 | 0 | 1 | 0 | 0 | -108.42 |
| BAHAMAS, THE | 8 | 1 | 1 | 0 | 0 | 0 | 4.79 |
| BAHRAIN, KINGDOM OF | 3 | 1 | 0 | 1 | 0 | 0 | 51.63 |
| BANGLADESH | 8 | 1 | 1 | 0 | 0 | 0 | -9.25 |
| BARBADOS | 8 | 1 | 1 | 0 | 0 | 0 | 7.44 |
| BELARUS | 8 | 1 | 1 | 0 | 0 | 0 | -4.53 |
| BELGIUM | 2 | 0 | 0 | 0 | 1 | 1 | 39.35 |
| BELIZE | 8 | 1 | 1 | 0 | 0 | 0 | 22.55 |
| BENIN | 6 | 1 | 0 | 1 | 0 | 0 | -75.96 |
| BHUTAN | 8 | 1 | 1 | 0 | 0 | 0 | 16.19 |
| BOLIVIA | 6 | 1 | 0 | 1 | 0 | 0 | -104.17 |
| BOSNIA \& |  |  |  |  |  |  |  |
| HERZEGOVINA | 8 | 1 | 1 | 0 | 0 | 0 | -53.29 |
| BOTSWANA | 8 | 1 | 1 | 0 | 0 | 0 | 48.12 |
| BRAZIL | 5 | 1 | 0 | 1 | 0 | 0 | -627.66 |
| BULGARIA | 4 | 1 | 0 | 1 | 0 | 1 | -119.71 |
| BURKINA FASO | 8 | 1 | 1 | 0 | 0 | 0 | -127.25 |
| BURUNDI | 8 | 1 | 1 | 0 | 0 | 0 | -24.53 |
| CAMBODIA | 8 | 1 | 1 | 0 | 0 | 0 | -79.66 |
| CAMEROON | 6 | 1 | 0 | 1 | 0 | 0 | -125.45 |
| CANADA | 1 | 0 | 0 | 0 | 1 | 0 | 40.65 |
| CAPE VERDE | 6 | 1 | 0 | 1 | 0 | 0 | -51.20 |
| CENTRAL AFRICAN |  |  |  |  |  |  |  |
| REP. | 8 | 1 | 1 | 0 | 0 | 0 | -43.66 |
| CHAD | 8 | 1 | 1 | 0 | 0 | 0 | -126.78 |
| CHILE | 3 | 1 | 0 | 1 | 0 | 0 | 45.82 |
| CHINA,P.R.: MAINLAND | 3 | 1 | 0 | 1 | 0 | 0 | 40.13 |
| COLOMBIA | 5 | 1 | 0 | 1 | 0 | 0 | 36.93 |
| COMOROS | 8 | 1 | 1 | 0 | 0 | 0 | 4.59 |
| CONGO, DEM. REP. OF | 8 | 1 | 1 | 0 | 0 | 0 | -88.81 |


| COUNTRYNAME | Credit <br> Rating | Dev \& |  |  | Advanc |  | Net IMF <br> Position |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Emkt | LDCs | EMCs | Econ | Europe |  |
| CONGO, REPUBLIC OF | 8 | 1 | 1 | 0 | 0 | 0 | -21.72 |
| COSTA RICA | 5 | 1 | 0 | 1 | 0 | 0 | 12.19 |
| COTE D IVOIRE | 8 | 1 | 1 | 0 | 0 | 0 | -87.78 |
| CROATIA | 4 | 1 | 0 | 1 | 0 | 1 | 0.04 |
| CYPRUS | 3 | 1 | 0 | 1 | 0 | 1 | 47.86 |
| CZECH REPUBLIC | 3 | 1 | 0 | 1 | 0 | 1 | 38.40 |
| DENMARK | 1 | 0 | 0 | 0 | 1 | 1 | 41.78 |
| DJIBOUTI | 8 | 1 | 1 | 0 | 0 | 0 | -79.57 |
| DOMINICA | 8 | 1 | 1 | 0 | 0 | 0 | -64.90 |
| DOMINICAN REPUBLIC | 7 | 1 | 0 | 1 | 0 | 0 | -40.00 |
| ECUADOR | 6 | 1 | 0 | 1 | 0 | 0 | -81.11 |
| EGYPT | 5 | 1 | 0 | 1 | 0 | 0 | 0.00 |
| EL SALVADOR | 5 | 1 | 0 | 1 | 0 | 0 | 0.00 |
| EQUATORIAL GUINEA | 8 | 1 | 1 | 0 | 0 | 0 | -0.56 |
| ERITREA | 8 | 1 | 1 | 0 | 0 | 0 | 0.03 |
| ESTONIA | 3 | 1 | 0 | 1 | 0 | 1 | 0.01 |
| ETHIOPIA | 8 | 1 | 1 | 0 | 0 | 0 | -73.78 |
| FIJI | 8 | 1 | 1 | 0 | 0 | 0 | 21.61 |
| FINLAND | 1 | 0 | 0 | 0 | 1 | 1 | 41.31 |
| FRANCE | 1 | 0 | 0 | 0 | 1 | 1 | 39.50 |
| GABON | 8 | 1 | 1 | 0 | 0 | 0 | -25.43 |
| GAMBIA, THE | 6 | 1 | 0 | 1 | 0 | 0 | -70.79 |
| GEORGIA | 8 | 1 | 1 | 0 | 0 | 0 | -129.24 |
| GERMANY | 1 | 0 | 0 | 0 | 1 | 1 | 39.61 |
| GHANA | 6 | 1 | 0 | 1 | 0 | 0 | -82.63 |
| GREECE | 3 | 1 | 0 | 1 | 0 | 1 | 40.61 |
| GRENADA | 8 | 1 | 1 | 0 | 0 | 0 | -25.04 |
| GUATEMALA | 8 | 1 | 1 | 0 | 0 | 0 | 0.00 |
| GUINEA | 8 | 1 | 1 | 0 | 0 | 0 | -85.55 |
| GUINEA-BISSAU | 8 | 1 | 1 | 0 | 0 | 0 | -97.00 |
| GUYANA | 8 | 1 | 1 | 0 | 0 | 0 | -70.60 |
| HAITI | 8 | 1 | 1 | 0 | 0 | 0 | -11.03 |
| HONDURAS | 8 | 1 | 1 | 0 | 0 | 0 | -82.47 |
| HUNGARY | 3 | 1 | 0 | 1 | 0 | 1 | 43.81 |
| ICELAND | 2 | 0 | 0 | 0 | 1 | 1 | 15.80 |
| INDIA | 5 | 1 | 0 | 1 | 0 | 0 | 21.33 |
| INDONESIA | 6 | 1 | 0 | 1 | 0 | 0 | -325.57 |
| IRAN, I.R. OF | 6 | 1 | 0 | 1 | 0 | 0 | 0.00 |


| COUNTRYNAME | Credit <br> Rating | Dev \& |  | Advanc |  |  | Net IMF <br> Position |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Emkt | LDCs | EMCs | Econ | Europe |  |
| IRELAND | 1 | 0 | 0 | 0 | 1 | 1 | 46.12 |
| ISRAEL | 3 | 1 | 0 | 1 | 0 | 0 | 38.22 |
| ITALY | 2 | 0 | 0 | 0 | 1 | 1 | 39.63 |
| JAMAICA | 8 | 1 | 1 | 0 | 0 | 0 | -2.19 |
| JAPAN | 2 | 0 | 0 | 0 | 1 | 0 | 39.09 |
| JORDAN | 8 | 1 | 1 | 0 | 0 | 0 | -166.28 |
| KAZAKHSTAN | 4 | 1 | 0 | 1 | 0 | 0 | 0.00 |
| KENYA | 8 | 1 | 1 | 0 | 0 | 0 | -23.18 |
| KIRIBATI | 8 | 1 | 1 | 0 | 0 | 0 | 0.17 |
| KOREA | 3 | 1 | 0 | 1 | 0 | 0 | 31.08 |
| KUWAIT | 2 | 0 | 0 | 0 | 1 | 0 | 37.85 |
| KYRGYZ REPUBLIC | 8 | 1 | 1 | 0 | 0 | 0 | -153.00 |
| LAO PEOPLE S DEM.REP | 8 | 1 | 1 | 0 | 0 | 0 | -56.43 |
| LATVIA | 3 | 1 | 0 | 1 | 0 | 1 | -2.96 |
| LEBANON | 6 | 1 | 0 | 1 | 0 | 0 | 9.28 |
| LESOTHO | 6 | 1 | 0 | 1 | 0 | 0 | -41.07 |
| LIBYA | 8 | 1 | 1 | 0 | 0 | 0 | 35.20 |
| LITHUANIA | 3 | 1 | 0 | 1 | 0 | 1 | -20.92 |
| LUXEMBOURG | 1 | 0 | 0 | 0 | 1 | 1 | 43.09 |
| MACEDONIA, FYR | 8 | 1 | 1 | 0 | 0 | 1 | -66.76 |
| MADAGASCAR | 8 | 1 | 1 | 0 | 0 | 0 | -94.85 |
| MALAWI | 7 | 1 | 0 | 1 | 0 | 0 | -95.79 |
| MALAYSIA | 3 | 1 | 0 | 1 | 0 | 0 | 39.43 |
| MALDIVES |  | 0 | 0 | 0 | 1 | 0 | 18.95 |
| MALI | 6 | 1 | 0 | 1 | 0 | 0 | -112.23 |
| MALTA | 3 | 1 | 0 | 1 | 0 | 1 | 39.47 |
| MAURITANIA | 8 | 1 | 1 | 0 | 0 | 0 | -108.97 |
| MAURITIUS | 8 | 1 | 1 | 0 | 0 | 0 | 21.53 |
| MEXICO | 4 | 1 | 0 | 1 | 0 | 0 | 20.36 |
| MOLDOVA | 6 | 1 | 0 | 1 | 0 | 0 | -77.88 |
| MONGOLIA | 8 | 1 | 1 | 0 | 0 | 0 | -65.09 |
| MOROCCO | 8 | 1 | 1 | 0 | 0 | 0 | 11.98 |
| MOZAMBIQUE | 6 | 1 | 0 | 1 | 0 | 0 | -123.89 |
| MYANMAR | 8 | 1 | 1 | 0 | 0 | 0 | 0.00 |
| NAMIBIA | 8 | 1 | 1 | 0 | 0 | 0 | 0.04 |
| NEPAL | 8 | 1 | 1 | 0 | 0 | 0 | -2.69 |
| NETHERLANDS | 1 | 0 | 0 | 0 | 1 | 1 | 39.81 |
| NEW ZEALAND | 2 | 0 | 0 | 0 | 1 | 0 | 48.41 |


| COUNTRYNAME | Credit <br> Rating | Dev \& |  | Advanc |  |  | Net IMF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Emkt | LDCs | EMCs | Econ | Europe | Position |
| NICARAGUA | 8 | 1 | 1 | 0 | 0 | 0 | -110.39 |
| NIGER | 8 | 1 | 1 | 0 | 0 | 0 | -121.38 |
| NIGERIA | 8 | 1 | 1 | 0 | 0 | 0 | 0.01 |
| NORWAY | 1 | 0 | 0 | 0 | 1 | 1 | 40.05 |
| OMAN | 8 | 1 | 1 | 0 | 0 | 0 | 39.98 |
| PAKISTAN | 8 | 1 | 1 | 0 | 0 | 0 | -137.82 |
| PANAMA | 5 | 1 | 0 | 1 | 0 | 0 | -8.78 |
| PAPUA NEW GUINEA | 6 | 1 | 0 | 1 | 0 | 0 | -61.85 |
| PARAGUAY | 8 | 1 | 1 | 0 | 0 | 0 | 21.50 |
| PERU | 5 | 1 | 0 | 1 | 0 | 0 | -14.67 |
| PHILIPPINES | 5 | 1 | 0 | 1 | 0 | 0 | -81.65 |
| POLAND | 4 | 1 | 0 | 1 | 0 | 1 | 39.30 |
| PORTUGAL | 2 | 0 | 0 | 0 | 1 | 1 | 41.60 |
| QATAR | 8 | 1 | 1 | 0 | 0 | 0 | 39.22 |
| ROMANIA | 4 | 1 | 0 | 1 | 0 | 1 | -38.89 |
| RUSSIA | 4 | 1 | 0 | 1 | 0 | 0 | -57.35 |
| RWANDA | 8 | 1 | 1 | 0 | 0 | 0 | -77.20 |
| SAMOA | 8 | 1 | 1 | 0 | 0 | 0 | 5.99 |
| SAO TOME \& PRINCIPE | 8 | 1 | 1 | 0 | 0 | 0 | -25.70 |
| SAUDI ARABIA | 3 | 1 | 0 | 1 | 0 | 0 | 43.62 |
| SENEGAL SERBIA \& | 8 | 1 | 1 | 0 | 0 | 0 | -98.77 |
| MONTENEGRO | 8 | 1 | 1 | 0 | 0 | 1 | -131.91 |
| SEYCHELLES | 8 | 1 | 1 | 0 | 0 | 0 | 0.02 |
| SIERRA LEONE | 8 | 1 | 1 | 0 | 0 | 0 | -109.69 |
| SINGAPORE | 1 | 0 | 0 | 0 | 1 | 0 | 43.97 |
| SLOVAK REPUBLIC | 3 | 1 | 0 | 1 | 0 | 1 | 0.00 |
| SLOVENIA | 2 | 0 | 0 | 0 | 1 | 1 | 42.01 |
| SOLOMON ISLANDS | 8 | 1 | 1 | 0 | 0 | 0 | 5.29 |
| SOUTH AFRICA | 4 | 1 | 0 | 1 | 0 | 0 | 0.03 |
| SPAIN | 1 | 0 | 0 | 0 | 1 | 1 | 41.11 |
| SRI LANKA | 8 | 1 | 1 | 0 | 0 | 0 | -52.44 |
| ST. KITTS AND NEVIS | 8 | 1 | 1 | 0 | 0 | 0 | 0.92 |
| ST. LUCIA | 8 | 1 | 1 | 0 | 0 | 0 | 0.04 |
| ST. VINCENT \& GRENS. | 8 | 1 | 1 | 0 | 0 | 0 | 6.02 |
| SUDAN | 8 | 1 | 1 | 0 | 0 | 0 | -237.39 |
| SURINAME | 6 | 1 | 0 | 1 | 0 | 0 | 6.65 |
| SWAZILAND | 8 | 1 | 1 | 0 | 0 | 0 | 12.92 |
| SWEDEN | 1 | 0 | 0 | 0 | 1 | 1 | 41.25 |


| COUNTRYNAME | Credit <br> Rating | Dev \& |  | EMCs | Advanc |  | Net IMF <br> Position |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Emkt | LDCs |  | Econ | Europe |  |
| SWITZERLAND | 1 | 0 | 0 | 0 | 1 | 1 | 40.00 |
| SYRIAN ARAB |  |  |  |  |  |  |  |
| REPUBLIC | 8 | 1 | 1 | 0 | 0 | 0 | 0.00 |
| TAJIKISTAN | 8 | 1 | 1 | 0 | 0 | 0 | -77.19 |
| TANZANIA | 8 | 1 | 1 | 0 | 0 | 0 | -142.91 |
| THAILAND | 4 | 1 | 0 | 1 | 0 | 0 | 6.93 |
| TIMOR-LESTE | 8 | 1 | 1 | 0 | 0 | 0 | 0.01 |
| TOGO | 8 | 1 | 1 | 0 | 0 | 0 | -38.02 |
| TONGA | 8 | 1 | 1 | 0 | 0 | 0 | 24.81 |
| TRINIDAD AND |  |  |  |  |  |  |  |
| TOBAGO | 8 | 1 | 1 | 0 | 0 | 0 | 38.53 |
| TUNISIA | 4 | 1 | 0 | 1 | 0 | 0 | 7.05 |
| TURKEY | 6 | 1 | 0 | 1 | 0 | 0 | -1,670.12 |
| TURKMENISTAN | 7 | 1 | 0 | 1 | 0 | 0 | 0.01 |
| UGANDA | 8 | 1 | 1 | 0 | 0 | 0 | -87.98 |
| UKRAINE | 6 | 1 | 0 | 1 | 0 | 0 | -90.05 |
| UNITED ARAB |  |  |  |  |  |  |  |
| EMIRATES | 8 | 1 | 1 | 0 | 0 | 0 | 39.12 |
| UNITED KINGDOM | 1 | 0 | 0 | 0 | 1 | 1 | 39.64 |
| UNITED STATES | 1 | 0 | 0 | 0 | 1 | 0 | 40.82 |
| URUGUAY | 6 | 1 | 0 | 1 | 0 | 0 | -530.47 |
| UZBEKISTAN | 8 | 1 | 1 | 0 | 0 | 0 | -10.55 |
| VANUATU | 8 | 1 | 1 | 0 | 0 | 0 | 14.68 |
| VENEZUELA, REP. BOL. | 6 | 1 | 0 | 1 | 0 | 0 | 12.11 |
| VIETNAM | 5 | 1 | 0 | 1 | 0 | 0 | -69.24 |
| YEMEN, REPUBLIC OF | 8 | 1 | 1 | 0 | 0 | 0 | -110.93 |
| ZAMBIA | 8 | 1 | 1 | 0 | 0 | 0 | -118.15 |
| ZIMBABWE | 8 | 1 | 1 | 0 | 0 | 0 | -57.33 |
| TOTAL |  | 149 | 88 | 61 | 26 | 34 |  |



| COUNTRYNAME | Net Intern. <br> Reserves | GDP-PPP <br> share | Over |  | GDP | LT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Representation | Population | Per Cap | Growth |
| CONGO, DEM. |  |  |  |  |  |  |
| REP. OF | n.a. | 0.0660 | 0.1857 | 52,771,200 | 116 | -1.29 |
| CONGO, |  |  |  |  |  |  |
| REPUBLIC OF | 23,807,700 | 0.0071 | 0.0329 | 3,723,600 | 1,331 | 4.10 |
| COSTA RICA | 1,235,810,000 | 0.0760 | 0.0015 | 4,172,860 | 4,308 | 3.71 |
| COTE D IVOIRE | 1,501,020,000 | 0.0543 | 0.0993 | 16,630,800 | 836 | 1.55 |
| CROATIA | 5,511,900,000 | 0.0928 | 0.0796 | 4,427,900 | 7,336 | 2.12 |
| CYPRUS |  | 0.0296 | 0.0363 | 801,884 | 18,098 | 4.81 |
| CZECH |  |  |  |  |  |  |
| REPUBLIC | 18,031,100,000 | 0.3235 | 0.0634 | 10,235,500 | 10,058 | 1.88 |
| DENMARK | 25,045,100,000 | 0.3415 | 0.4342 | 5,363,820 | 43,896 | 1.91 |
| DJIBOUTI | 67,383,300 | 0.0030 | 0.0045 | 702,504 | 794 | 0.33 |
| DOMINICA | 32,124,000 | 0.0010 | 0.0029 | 78,620 | 3,643 | 3.22 |
| DOMINICAN |  |  |  |  |  |  |
| REPUBLIC | 170,998,000 | 0.1108 | -0.0074 | 8,744,910 | 1,822 | 3.96 |
| ECUADOR | 576,424,000 | 0.0988 | 0.0439 | 13,002,500 | 2,082 | 2.61 |
| EGYPT | 9,229,820,000 | 0.5151 | -0.0695 | 71,931,000 | 1,083 | 4.21 |
| EL SALVADOR | 1,323,930,000 | 0.0563 | 0.0246 | 6,515,400 | 2,009 | 1.31 |
| EQUATORIAL |  |  |  |  |  |  |
| GUINEA | 159,957,000 | 0.0257 | -0.0103 | 494,168 | 4,032 | 13.14 |
| ERITREA | 16,627,400 | 0.0018 | 0.0057 |  | 138 | 4.84 |
| ESTONIA | 924,498,000 | 0.0332 | -0.0024 | 1,323,130 | 8,058 | 1.96 |
| ETHIOPIA | 643,087,000 | 0.0980 | -0.0349 | 70,678,000 | 114 | 2.99 |
| FIJI | 285,108,000 | 0.0091 | 0.0241 | 838,777 | 2,143 | 2.66 |
| FINLAND | 7,131,340,000 | 0.2868 | 0.3100 | 5,206,730 | 34,318 | 2.54 |
| FRANCE | 23,717,900,000 | 3.3105 | 1.7604 | 60,144,100 | 32,153 | 2.03 |
| GABON | 132,734,000 | 0.0168 | 0.0561 | 1,328,630 | 5,140 | 1.73 |
| GAMBIA, THE | 78,614,100 | 0.0051 | 0.0096 | 1,425,590 | 268 | 3.89 |
| GEORGIA | 128,348,000 | 0.0243 | 0.0467 | 5,125,610 | 866 | -1.79 |
| GERMANY | 37,985,600,000 | 4.6536 | 1.4890 | 82,475,600 | 32,404 | 1.82 |
| GHANA | 920,226,000 | 0.0881 | 0.0861 | 20,922,300 | 424 | 3.52 |
| GREECE | 3,055,870,000 | 0.4069 | -0.0183 | 10,976,300 | 18,036 | 1.93 |
| GRENADA | 56,007,800 | 0.0018 | 0.0037 | 80,312 | 4,386 | 3.23 |
| GUATEMALA | 1,914,340,000 | 0.1009 | -0.0016 | 12,346,900 | 1,953 | 2.53 |
| GUINEA |  | 0.0334 | 0.0172 | 8,480,320 | 381 | 3.46 |
| GUINEA-BISSAU | 110,623,000 | 0.0020 | 0.0047 | 1,492,700 | 199 | 1.99 |
| GUYANA | 185,998,000 | 0.0069 | 0.0360 | 765,480 | 1,034 | 1.21 |
| HAITI | 41,793,700 | 0.0284 | 0.0103 | 8,326,310 | 557 | -0.17 |
| HONDURAS | 963,104,000 | 0.0363 | 0.0249 | 6,940,590 | 1,026 | 2.83 |
| HUNGARY | 8,575,310,000 | 0.2866 | 0.2037 | 9,876,920 | 10,015 | 1.38 |
| ICELAND | 535,372,000 | 0.0176 | 0.0379 | 289,574 | 41,875 | 2.84 |


| COUNTRYNAME | Net Intern. | GDP-PPP | Over |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Reserves | share | Representation | Population | Per Cap | Growth |
| INDIA | 66,983,900,000 | 5.6763 | -3.7128 | 1,065,460,000 | 603 | 5.61 |
| INDONESIA | 23,636,800,000 | 1.4537 | -0.4718 | 219,883,000 | 1,003 | 4.91 |
| IRAN, I.R. OF |  | 0.8977 | -0.1907 | 68,919,600 | 2,429 | 3.50 |
| IRELAND | 2,750,850,000 | 0.2730 | 0.1229 | 3,955,550 | 43,862 | 4.96 |
| ISRAEL | 17,709,000,000 | 0.2775 | 0.1608 | 6,433,360 | 17,165 | 3.89 |
| ITALY | 23,194,100,000 | 3.1564 | 0.1753 | 57,423,000 | 28,649 | 1.84 |
| JAMAICA | 804,094,000 | 0.0211 | 0.1081 | 2,650,920 | 2,986 | 1.52 |
| JAPAN | 447,229,000,000 | 7.1746 | -0.8881 | 127,654,000 | 36,184 | 2.56 |
| JORDAN | 3,509,940,000 | 0.0450 | 0.0355 | 5,472,830 | 1,903 | 4.32 |
| KAZAKHSTAN | 2,911,690,000 | 0.1833 | -0.0106 | 15,433,000 | 2,580 | 1.45 |
| KENYA | 997,284,000 | 0.0668 | 0.0613 | 31,987,100 | 466 | 2.94 |
| KIRIBATI |  | 0.0000 |  |  | 760 | 0.58 |
| KOREA | 104,516,000,000 | 1.6621 | -0.8907 | 47,700,000 | 13,806 | 6.53 |
| KUWAIT | 5,187,900,000 | 0.0707 | 0.5815 | 2,521,360 | 19,534 | 1.49 |
| KYRGYZ <br> REPUBLIC <br> LAO PEOPLE S | 248,269,000 | 0.0176 | 0.0243 | 5,137,780 | 381 | -0.52 |
| DEM.REP |  | 0.0201 | 0.0049 | 5,657,340 | 401 | 6.08 |
| LATVIA | 972,679,000 | 0.0442 | 0.0157 | 2,307,470 | 5,633 | 1.02 |
| LEBANON | 8,747,870,000 | 0.0407 | 0.0551 | 3,652,510 | 5,225 | 2.82 |
| LESOTHO | 309,787,000 | 0.0095 | 0.0070 | 1,801,690 | 536 | 3.98 |
| LIBYA | 13,341,100,000 | 0.1045 | 0.4261 | 5,550,930 | 5,209 | 0.05 |
| LITHUANIA | 2,275,730,000 | 0.0741 | -0.0060 | 3,443,630 | 6,212 | 0.49 |
| LUXEMBOURG MACEDONIA | 190,991,000 | 0.0549 | 0.0769 | 453,147 | 66,279 | 4.80 |
| FYR | 607,468,000 | 0.0282 | 0.0044 | 2,055,910 | 2,399 | 0.11 |
| MADAGASCAR | 278,789,000 | 0.0277 | 0.0300 | 17,403,600 | 242 | 1.32 |
| MALAWI | 85,551,800 | 0.0136 | 0.0192 | 12,105,300 | 165 | 2.59 |
| MALAYSIA | 29,997,900,000 | 0.4726 | 0.2294 | 24,424,600 | 4,418 | 6.26 |
| MALDIVES | 107,395,000 | 0.0041 | -0.0002 | 318,251 | 2,256 | 8.36 |
| MALI | 611,494,000 | 0.0203 | 0.0238 | 13,006,700 | 412 | 3.98 |
| MALTA | 1,625,200,000 | 0.0154 | 0.0328 | 394,258 | 12,029 | 3.87 |
| MAURITANIA | 279,903,000 | 0.0103 | 0.0201 | 2,892,900 | 432 | 3.45 |
| MAURITIUS | 1,063,610,000 | 0.0273 | 0.0206 | 1,221,320 | 4,841 | 5.46 |
| MEXICO | 39,680,800,000 | 1.9060 | -0.6850 | 103,457,000 | 6,377 | 2.78 |
| MOLDOVA | 203,416,000 | 0.0134 | 0.0448 | 4,266,560 | 630 | -5.30 |
| MONGOLIA | 159,435,000 | 0.0087 | 0.0154 | 2,593,920 | 512 | 3.12 |
| MOROCCO | 9,346,060,000 | 0.2366 | 0.0412 | 30,565,900 | 1,541 | 3.42 |
| MOZAMBIQUE |  | 0.0423 | 0.0113 | 18,863,300 | 278 | 4.09 |
| MYANMAR | 378,378,000 | 0.1414 | -0.0194 | 49,485,500 | 142 | 4.74 |


| COUNTRYNAME | Net Intern. | GDP-PPP | Over |  | GDP | LT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Reserves | share | Representation | Population | Per Cap | Growth |
| NAMIBIA | 218,859,000 | 0.0253 | 0.0391 | 1,987,490 | 2,241 | 1.95 |
| NEPAL | 828,032,000 | 0.0679 | -0.0342 | 25,164,200 | 239 | 4.31 |
| NETHERLANDS | 8,550,966,000 | 0.9473 | 1.4904 | 16,370,010 | 34,836 | 2.18 |
| NEW ZEALAND | 3,304,220,000 | 0.1665 | 0.2559 | 3,875,380 | 23,120 | 2.76 |
| NICARAGUA |  | 0.0269 | 0.0344 | 5,465,890 | 777 | 1.53 |
| NIGER | 76,756,800 | 0.0190 | 0.0120 | 11,971,700 | 265 | 1.80 |
| NIGERIA | 4,821,210,000 | 0.2516 | 0.5763 | 124,009,000 | 496 | 2.80 |
| NORWAY | 25,088,900,000 | 0.3589 | 0.4305 | 4,533,060 | 52,861 | 2.98 |
| OMAN | 2,418,300,000 | 0.0719 | 0.0197 | 2,850,980 | 10,235 | 6.12 |
| PAKISTAN | 7,436,210,000 | 0.6384 | -0.1503 | 153,578,000 | 538 | 4.99 |
| PANAMA PAPUA NEW | 680,343,000 | 0.0389 | 0.0587 | 3,120,400 | 4,615 | 3.52 |
| GUINEA | 334,766,000 | 0.0253 | 0.0368 | 5,711,340 | 686 | 2.63 |
| PARAGUAY | 653,227,000 | 0.0519 | -0.0047 | 5,878,080 | 1,155 | 2.71 |
| PERU | 6,618,430,000 | 0.2815 | 0.0199 | 27,167,200 | 2,290 | 2.20 |
| PHILIPPINES | 9,343,930,000 | 0.6958 | -0.2803 | 79,999,000 | 1,019 | 2.73 |
| POLAND | 22,040,200,000 | 0.8534 | -0.2069 | 38,587,300 | 5,912 | 1.72 |
| PORTUGAL | 4,536,160,000 | 0.3782 | 0.0314 | 10,061,500 | 16,021 | 2.98 |
| QATAR | 1,986,640,000 | 0.0375 | 0.0871 | 610,102 | 33,570 | 3.40 |
| ROMANIA | 6,176,140,000 | 0.3054 | 0.1810 | 22,333,900 | 3,012 | 0.74 |
| RUSSIA | 49,683,000,000 | 2.5238 | 0.2837 | 143,246,000 | 4,016 | -0.52 |
| RWANDA | 144,484,000 | 0.0207 | 0.0172 | 8,387,230 | 184 | 2.85 |
| SAMOA <br>  | 56,467,900 | 0.0020 | 0.0035 | 178,013 | 1,750 | 2.02 |
| PRINCIPE |  | 0.0000 |  | 160,599 | 398 | 0.88 |
| SAUDI ARABIA | 15,383,200,000 | 0.5410 | 2.7576 | 24,217,000 | 10,663 | 2.00 |
| SENEGAL SERBIA \& | 534,688,000 | 0.0336 | 0.0428 | 10,094,500 | 715 | 2.86 |
| MONTENEGRO |  | 0.0753 | 0.1455 |  | 2,796 | 2.42 |
| SEYCHELLES | 45,349,400 | 0.0020 | 0.0021 | 81,007 | 8,567 | 2.89 |
| SIERRA LEONE | 44,830,800 | 0.0057 | 0.0433 | 4,970,860 | 193 | -0.08 |
| SINGAPORE SLOVAK | 64,433,300,000 | 0.2062 | 0.2011 | 4,252,840 | 23,999 | 6.76 |
| REPUBLIC | 7,898,410,000 | 0.1430 | 0.0258 | 5,402,430 | 7,329 | 2.86 |
| SLOVENIA SOLOMON | 5,726,590,000 | 0.0784 | 0.0310 | 1,984,130 | 16,439 | 3.12 |
| ISLANDS | 25,036,800 | 0.0018 | 0.0031 | 477,018 | 518 | 1.47 |
| SOUTH AFRICA | 4,510,360,000 | 0.9372 | -0.0549 | 45,026,500 | 3,687 | 2.02 |
| SPAIN | 13,905,800,000 | 1.8211 | -0.3814 | 41,060,400 | 23,447 | 2.69 |
| SRI LANKA |  | 0.1442 | 0.0510 | 19,065,400 | 982 | 4.56 |
| ST. KITTS AND N | 43,609,300 | 0.0010 | 0.0032 | 41,756 | 8,195 | 4.42 |


| COUNTRYNAME | Net Intern. <br> Reserves | GDP-PPP <br> share | Over <br> Representation | Population | GDP <br> Per Cap | LT <br> Growth |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ST. LUCIA | 71,941,000 | 0.0020 | 0.0052 | 149,187 | 4,021 | 3.79 |
| ST. VINCENT \& GRENS. | 34,450,000 | 0.0010 | 0.0029 | 119,846 | 3,512 | 4.22 |
| SUDAN | 570,352,000 | 0.1333 | -0.0531 | 33,609,900 | 586 | 4.09 |
| SURINAME | 71,896,600 | 0.0051 | 0.0384 | 435,529 | 2,760 | 0.54 |
| SWAZILAND | 186,755,000 | 0.0101 | 0.0138 | 1,077,280 | 1,906 | 4.58 |
| SWEDEN | 13,453,300,000 | 0.5029 | 0.6283 | 8,876,250 | 37,363 | 2.10 |
| SWITZERLAND SYRIAN ARAB | 33,906,200,000 | 0.4373 | 1.1958 | 7,168,660 | 47,493 | 1.56 |
| REPUBLIC |  | 0.1270 | 0.0116 | 17,799,500 | 1,328 | 4.20 |
| TAJIKISTAN | 75,751,300 | 0.0126 | 0.0285 | 6,244,940 | 261 | -1.52 |
| TANZANIA | 1,371,770,000 | 0.0421 | 0.0518 | 36,976,600 | 290 | 3.72 |
| THAILAND | 27,734,200,000 | 0.8951 | -0.3842 | 62,833,300 | 2,556 | 6.06 |
| TIMOR-LESTE |  | 0.0010 | 0.0028 |  | 402 | 6.26 |
| TOGO | 122,795,000 | 0.0142 | 0.0205 |  | 354 | 1.52 |
| TONGA <br> TRINIDAD AND | 28,685,000 | 0.0010 | 0.0022 | 103,622 | 2,059 | 5.51 |
| TOBAGO | 1,651,610,000 | 0.0271 | 0.1313 | 1,302,710 | 9,545 | 1.48 |
| TUNISIA | 1,989,740,000 | 0.1392 | -0.0039 | 9,832,300 | 2,881 | 4.36 |
| TURKEY | 23,005,300,000 | 0.9182 | -0.4630 | 71,325,200 | 4,428 | 4.06 |
| TURKMENISTAN |  | 0.0547 | -0.0192 |  | 2,518 | 3.73 |
| UGANDA | 726,973,000 | 0.0677 | 0.0176 | 25,827,000 | 287 | 4.73 |
| UKRAINE UNITED ARAB | 4,546,920,000 | 0.4963 | 0.1516 | 48,523,100 | 1,293 | -2.45 |
| EMIRATES <br> UNITED | 10,153,500,000 | 0.1614 | 0.1274 | 2,994,780 | 21,410 | 3.33 |
| KINGDOM | 28,516,000,000 | 3.2530 | 1.8179 | 59,250,600 | 35,505 | 2.35 |
| UNITED STATES | 59,554,900,000 | 21.5011 | -3.9587 | 294,043,000 | 39,991 | 3.02 |
| URUGUAY | 1,402,190,000 | 0.0861 | 0.0586 | 3,415,300 | 3,489 | 1.68 |
| UZBEKISTAN |  | 0.0851 | 0.0451 |  | 357 | 0.42 |
| VANUATU <br> VENEZUELA, | 29,486,800 | 0.0010 | 0.0070 | 211,960 | 1,394 | 2.61 |
| REP. BOL. | 11,192,200,000 | 0.2694 | 0.9863 | 25,698,800 | 4,019 | 1.16 |
| VIETNAM |  | 0.3688 | -0.2134 | 81,376,700 | 494 | 6.03 |
| YEMEN, REPUBLIC OF | 3,357,770,000 | 0.0324 | 0.0826 | 20,010,300 | 526 | 5.29 |
| ZAMBIA | 166,712,000 | 0.0180 | 0.2129 | 10,812,100 | 454 | 1.21 |
| ZIMBABWE | 66,249,200 | 0.0573 | 0.1096 | 12,891,200 | 498 | 1.36 |
| TOTAL |  | 100.0000 |  |  |  |  |

Annex IIA. Final Quota Adjustment in the No Reduction Scenario

|  | Adjusted |
| :---: | :---: |
| COUNTRYNAME | Quota |
| AFGHANISTAN, I.S. OF | 488,894,117 |
| ALBANIA | 147,060,800 |
| ALGERIA | 2,970,252,362 |
| ANGOLA | 864,548,398 |
| ANTIGUA AND BARBUDA | 40,766,341 |
| ARGENTINA | 6,393,068,160 |
| ARMENIA | 277,815,063 |
| AUSTRALIA | 7,661,532,435 |
| AUSTRIA | 3,780,533,402 |
| AZERBAIJAN | 485,874,388 |
| BAHAMAS, THE | 393,470,682 |
| BAHRAIN, KINGDOM OF | 407,663,408 |
| BANGLADESH | 2,739,245,154 |
| BARBADOS | 203,831,704 |
| BELARUS | 1,166,823,266 |
| BELGIUM | 4,605,200,000 |
| BELIZE | 56,770,904 |
| BENIN | 186,921,222 |
| BHUTAN | 19,024,292 |
| BOLIVIA | 517,883,515 |
| BOSNIA \& HERZEGOVINA | 510,636,165 |
| BOTSWANA | 190,242,924 |
| BRAZIL | 17,409,014,506 |
| BRUNEI DARUSSALAM | 509,443,140 |
| BULGARIA | 1,292,686,794 |
| BURKINA FASO | 181,787,683 |
| BURUNDI | 232,519,129 |
| CAMBODIA | 264,226,283 |
| CAMEROON | 560,763,666 |
| CANADA | 12,860,638,436 |
| CAPE VERDE | 28,989,398 |
| CENTRAL AFRICAN REP. | 168,198,903 |
| CHAD | 169,104,821 |
| CHILE | 2,585,189,954 |
| $\begin{aligned} & \hline \text { CHINA,P.R.: } \\ & \text { MAINLAND } \end{aligned}$ | 77,210,231,109 |



| 0.074 | 0.074 |
| ---: | ---: |
| 0.022 | -0.005 |
| 0.452 | 0.064 |
| 0.131 | 0.070 |
| 0.006 | 0.004 |
| 0.972 | 0.073 |
| 0.042 | 0.023 |
| 1.165 | 0.053 |
| 0.575 | 0.074 |
| 0.074 | 0.020 |
| 0.060 | 0.048 |


| 0.062 | 0.037 |
| ---: | ---: |
| 0.416 | -0.083 |
| 0.031 | 0.022 |
| 0.177 | 0.065 |
| 0.700 | 0.115 |
| 0.009 | 0.006 |
| 0.028 | 0.014 |
| 0.003 | -0.002 |
| 0.079 | 0.034 |


| 0.078 | 0.078 |
| :--- | ---: |
| 0.029 | -0.001 |
| 2.647 | -0.185 |

$2.647-0.185$
$0.077 \quad 0.077$
$0.197 \quad 0.078$
$0.028-0.001$

$$
0.035 \quad 0.026
$$

$$
0.040 \quad-0.003
$$

$$
0.085 \quad 0.027
$$

$$
1.955-0.013
$$

$$
0.004 \quad 0.000
$$

$$
0.026 \quad 0.016
$$

$$
0.026 \quad 0.007
$$

$$
0.393 \quad 0.076
$$

$$
11.739
$$

Change in Quota \begin{tabular}{|l|}
\hline $\begin{array}{l}\text { Correcting } \\
\text { Over Rep }\end{array}$ <br>

 

Proportional <br>
$326,994,117$
\end{tabular}

## Total

326,994,117
98,360,800
1,715,552,362
578,248,398
27,266,341
4,275,968,160
185,815,063
4,425,132,435
1,908,233,402
324,974,388
263,170,682
272,663,408
2,205,945,154
136,331,704
780,423,266

37,970,904
125,021,222
12,724,292
346,383,515
341,536,165
127,242,924
14,372,914,506
294,243,140
652,486,794
121,587,683
155,519,129
176,726,283
375,063,666
6,491,438,436
19,389,398
112,498,903
113,104,821
1,729,089,954
0 70,841,031,109

|  | Adjusted |  |  |
| :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota <br> Share | Over Rep |
| COLOMBIA | 3,140,083,217 | 0.477 | -0.096 |
| COMOROS | 26,875,588 | 0.004 | 0.002 |
| CONGO, DEM. REP. OF | 946,801,618 | 0.144 | 0.078 |
| CONGO, REPUBLIC OF | 255,469,069 | 0.039 | 0.032 |
| COSTA RICA | 495,537,521 | 0.075 | -0.001 |
| COTE D IVOIRE | 982,015,855 | 0.149 | 0.095 |
| CROATIA | 1,102,503,040 | 0.168 | 0.075 |
| CYPRUS | 421,554,161 | 0.064 | 0.035 |
| CZECH REPUBLIC | 2,474,063,929 | 0.376 | 0.053 |
| DENMARK | 2,610,438,826 | 0.397 | 0.055 |
| DJIBOUTI | 48,013,690 | 0.007 | 0.004 |
| DOMINICA | 24,761,777 | 0.004 | 0.003 |
| DOMINICAN REPUBLIC | 661,018,667 | 0.101 | -0.010 |
| ECUADOR | 912,864,062 | 0.139 | 0.040 |
| EGYPT | 2,849,718,210 | 0.433 | -0.082 |
| EL SALVADOR | 517,279,569 | 0.079 | 0.022 |
| EQUATORIAL GUINEA | 98,443,164 | 0.015 | -0.011 |
| ERITREA | 48,013,690 | 0.007 | 0.007 |
| ESTONIA | 196,886,328 | 0.030 | -0.003 |
| ETHIOPIA | 403,737,761 | 0.061 | -0.037 |
| FIJI | 212,286,945 | 0.032 | 0.023 |
| FINLAND | 2,244,967,888 | 0.341 | 0.054 |
| FRANCE | 21,683,094,555 | 3.297 | -0.014 |
| GABON | 465,944,177 | 0.071 | 0.054 |
| GAMBIA, THE | 93,913,570 | 0.014 | 0.009 |
| GEORGIA | 453,865,261 | 0.069 | 0.045 |
| GERMANY | 28,616,449,043 | 4.351 | -0.304 |
| GHANA | 1,114,279,983 | 0.169 | 0.081 |
| GREECE | 2,485,236,926 | 0.378 | -0.029 |
| GRENADA | 35,330,829 | 0.005 | 0.004 |
| GUATEMALA | 634,747,025 | 0.097 | -0.004 |
| GUINEA | 323,412,971 | 0.049 | 0.016 |
| GUINEA-BISSAU | 42,880,151 | 0.007 | 0.004 |
| GUYANA | 274,493,362 | 0.042 | 0.035 |
| HAITI | 247,315,801 | 0.038 | 0.009 |
| HONDURAS | 391,054,899 | 0.059 | 0.023 |
| HUNGARY | 2,458,205,191 | 0.374 | 0.087 |
| ICELAND | 355,120,125 | 0.054 | 0.036 |

Change in Quota

| Correcting Over Rep | Proportional | Total |
| :---: | :---: | :---: |
| 781,118,599 | 1,584,964,618 | 2,366,083,217 |
| 0 | 17,975,588 | 17,975,588 |
| 0 | 413,801,618 | 413,801,618 |
| 0 | 170,869,069 | 170,869,069 |
| 0 | 331,437,521 | 331,437,521 |
| 0 | 656,815,855 | 656,815,855 |
| 0 | 737,403,040 | 737,403,040 |
| 0 | 281,954,161 | 281,954,161 |
| 0 | 1,654,763,929 | 1,654,763,929 |
| 0 | 967,638,826 | 967,638,826 |
| 0 | 32,113,690 | 32,113,690 |
| 0 | 16,561,777 | 16,561,777 |
| 0 | 442,118,667 | 442,118,667 |
| 0 | 610,564,062 | 610,564,062 |
| 0 | 1,906,018,210 | 1,906,018,210 |
| 0 | 345,979,569 | 345,979,569 |
| 0 | 65,843,164 | 65,843,164 |
| 0 | 32,113,690 | 32,113,690 |
| 0 | 131,686,328 | 131,686,328 |
| 0 | 270,037,761 | 270,037,761 |
| 0 | 141,986,945 | 141,986,945 |
| 0 | 981,167,888 | 981,167,888 |
| 0 | 10,944,594,555 | 10,944,594,555 |
| 0 | 311,644,177 | 311,644,177 |
| 0 | 62,813,570 | 62,813,570 |
| 0 | 303,565,261 | 303,565,261 |
| 15,608,249,043 | 0 | 15,608,249,043 |
| 0 | 745,279,983 | 745,279,983 |
| 0 | 1,662,236,926 | 1,662,236,926 |
| 0 | 23,630,829 | 23,630,829 |
| 0 | 424,547,025 | 424,547,025 |
| 0 | 216,312,971 | 216,312,971 |
| 0 | 28,680,151 | 28,680,151 |
| 0 | 183,593,362 | 183,593,362 |
| 0 | 165,415,801 | 165,415,801 |
| 0 | 261,554,899 | 261,554,899 |
| 0 | 1,419,805,191 | 1,419,805,191 |
| 0 | 237,520,125 | 237,520,125 |


|  | Adjusted |  |  | Change in Quota |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep | Correcting Over Rep | Proportional | Total |
| INDIA | 34,905,217,322 | 5.307 | -0.370 | 30,747,017,322 | 0 | 30,747,017,322 |
| INDONESIA | 8,916,717,441 | 1.356 | -0.098 | 5,687,859,369 | 1,149,558,072 | 6,837,417,441 |
| IRAN, I.R. OF | 5,503,049,277 | 0.837 | -0.061 | 2,399,099,382 | 1,606,749,895 | 4,005,849,277 |
| IRAQ | 606,192,095 | 0.092 | 0.092 | 0 | 102,192,095 | 102,192,095 |
| IRELAND | 1,984,745,023 | 0.302 | 0.029 | 0 | 1,146,345,023 | 1,146,345,023 |
| ISRAEL | 2,197,328,639 | 0.334 | 0.057 | 0 | 1,269,128,639 | 1,269,128,639 |
| ITALY | 19,409,363,458 | 2.951 | -0.206 | 12,353,863,458 | 0 | 12,353,863,458 |
| JAMAICA | 647,456,779 | 0.098 | 0.077 | 0 | 373,956,779 | 373,956,779 |
| JAPAN | 44,118,530,644 | 6.708 | -0.468 | 30,805,730,644 | 0 | 30,805,730,644 |
| JORDAN | 514,863,786 | 0.078 | 0.033 | 0 | 344,363,786 | 344,363,786 |
| KAZAKHSTAN | 1,104,314,877 | 0.168 | -0.015 | 0 | 738,614,877 | 738,614,877 |
| KENYA | 819,554,437 | 0.125 | 0.058 | 0 | 548,154,437 | 548,154,437 |
| KIRIBATI | 16,910,482 | 0.003 | 0.003 | 0 | 11,310,482 | 11,310,482 |
| KOREA | 10,220,961,081 | 1.554 | -0.108 | 8,587,361,081 | 0 | 8,587,361,081 |
| KUWAIT | 1,381,100,000 | 0.210 | 0.139 | 0 | 0 | 0 |
| KYRGYZ REPUBLIC | 268,151,931 | 0.041 | 0.023 | 0 | 179,351,931 | 179,351,931 |
| LAO PEOPLE S DEM.REP | 159,743,661 | 0.024 | 0.004 | 0 | 106,843,661 | 106,843,661 |
| LATVIA | 382,901,631 | 0.058 | 0.014 | 0 | 256,101,631 | 256,101,631 |
| LEBANON | 613,004,977 | 0.093 | 0.052 | 0 | 410,004,977 | 410,004,977 |
| LESOTHO | 105,388,540 | 0.016 | 0.007 | 0 | 70,488,540 | 70,488,540 |
| LIBERIA | 215,306,674 | 0.033 | 0.033 | 0 | 144,006,674 | 144,006,674 |
| LIBYA | 1,290,010,274 | 0.196 | 0.092 | 0 | 166,310,274 | 166,310,274 |
| LITHUANIA | 435,444,915 | 0.066 | -0.008 | 0 | 291,244,915 | 291,244,915 |
| LUXEMBOURG | 842,806,350 | 0.128 | 0.073 | 0 | 563,706,350 | 563,706,350 |
| MACEDONIA, FYR | 208,059,325 | 0.032 | 0.003 | 0 | 139,159,325 | 139,159,325 |
| MADAGASCAR | 369,010,878 | 0.056 | 0.028 | 0 | 246,810,878 | 246,810,878 |
| MALAWI | 209,569,189 | 0.032 | 0.018 | 0 | 140,169,189 | 140,169,189 |
| MALAYSIA | 3,519,229,427 | 0.535 | 0.062 | 0 | 2,032,629,427 | 2,032,629,427 |
| MALDIVES | 24,761,777 | 0.004 | 0.000 | 0 | 16,561,777 | 16,561,777 |
| MALI | 281,740,711 | 0.043 | 0.023 | 0 | 188,440,711 | 188,440,711 |
| MALTA | 308,012,353 | 0.047 | 0.031 | 0 | 206,012,353 | 206,012,353 |
| MARSHALL ISLANDS,REP | 10,569,051 | 0.002 | 0.002 | 0 | 7,069,051 | 7,069,051 |
| MAURITANIA | 194,470,544 | 0.030 | 0.019 | 0 | 130,070,544 | 130,070,544 |
| MAURITIUS | 306,804,461 | 0.047 | 0.019 | 0 | 205,204,461 | 205,204,461 |
| MEXICO | 11,720,600,022 | 1.782 | -0.124 | 9,134,800,022 | 0 | 9,134,800,022 |
| MICRONESIA, FED.STS. | 15,400,618 | 0.002 | 0.002 | 0 | 10,300,618 | 10,300,618 |
| MOLDOVA | 372,030,607 | 0.057 | 0.043 | 0 | 248,830,607 | 248,830,607 |




Annex IIB. Final Quota Adjustment in the Voluntary Quota Reduction Scenario

|  | Adjusted |
| :---: | :---: |
| COUNTRYNAME | Quota |
| AFGHANISTAN, I.S. OF | 488,894,117 |
| ALBANIA | 147,060,800 |
| ALGERIA | 2,970,252,362 |
| ANGOLA | 864,548,398 |
| ANTIGUA AND BARBUDA | 40,766,341 |
| ARGENTINA | 6,393,068,160 |
| ARMENIA | 277,815,063 |
| AUSTRALIA | 7,661,532,435 |
| AUSTRIA | 3,780,533,402 |
| AZERBAIJAN | 485,874,388 |
| BAHAMAS, THE | 393,470,682 |
| BAHRAIN, KINGDOM OF | 407,663,408 |
| BANGLADESH | 2,739,245,154 |
| BARBADOS | 203,831,704 |
| BELARUS | 1,166,823,266 |
| BELGIUM | 4,605,200,000 |
| BELIZE | 56,770,904 |
| BENIN | 186,921,222 |
| BHUTAN | 19,024,292 |
| BOLIVIA | 517,883,515 |
| BOSNIA \& HERZEGOVINA | 510,636,165 |
| BOTSWANA | 190,242,924 |
| BRAZIL | 17,409,014,506 |
| BRUNEI DARUSSALAM | 509,443,140 |
| BULGARIA | 1,292,686,794 |
| BURKINA FASO | 181,787,683 |
| BURUNDI | 232,519,129 |
| CAMBODIA | 264,226,283 |
| CAMEROON | 560,763,666 |
| CANADA | 12,860,638,436 |
| CAPE VERDE | 28,989,398 |
| CENTRAL AFRICAN REP. | 168,198,903 |
| CHAD | 169,104,821 |
| CHILE | 2,585,189,954 |
| CHINA,P.R.: MAINLAND | 77,210,231,109 |
| COLOMBIA | 3,140,083,217 |
| COMOROS | 26,875,588 |


| Adjusted | Adjusted |
| :--- | :--- |
| Quota |  |

Share

| 0.074 | 0.074 |
| :--- | ---: |
| 0.022 | -0.005 |
| 0.452 | 0.064 |
| 0.131 | 0.070 |
| 0.006 | 0.004 |
| 0.972 | 0.073 |

$0.042 \quad 0.023$
$1.165 \quad 0.053$
$0.575 \quad 0.074$
$0.074 \quad 0.020$
$0.060 \quad 0.048$
$0.062 \quad 0.037$
$0.416-0.083$
$0.031 \quad 0.022$
$0.177 \quad 0.065$
$0.700 \quad 0.115$
$0.009 \quad 0.006$
$0.028 \quad 0.014$
$0.003-0.002$
$0.079 \quad 0.034$
$0.078 \quad 0.078$
$0.029 \quad-0.001$
$2.647-0.185$
$0.077 \quad 0.077$
$0.197 \quad 0.078$
$0.028 \quad-0.001$
$0.035 \quad 0.026$
$0.040 \quad-0.003$
$0.085 \quad 0.027$
$1.955-0.013$
$0.004 \quad 0.000$
$0.026 \quad 0.016$
$0.026 \quad 0.007$
$0.393 \quad 0.076$
$11.739 \quad-0.819$
$0.477 \quad-0.096$
$0.004 \quad 0.002$

Change in Quota

## Correction

Over Rep
Pro
Proport

| $326,994,117$ | $326,994,117$ |
| ---: | ---: |
| $98,360,800$ | $98,360,800$ |
| $1,715,552,362$ | $1,715,552,362$ |
| $578,248,398$ | $578,248,398$ |
| $27,266,341$ | $27,266,341$ |
| $4,275,968,160$ | $4,275,968,160$ |

185,815,063 185,815,063
4,425,132,435
1,908,233,402
324,974,388
263,170,682
272,663,408
1,382,640,634
136,331,704
780,423,266

37,970,904
125,021,222
12,724,292
346,383,515
341,536,165
127,242,924
0
294,243,140
652,486,794
121,587,683
155,519,129
176,726,283
375,063,666
6,491,438,436
19,389,398
112,498,903
113,104,821
$\begin{array}{rr}1,729,089,954 & 1,729,089,954 \\ 0 & 70,841,031,109 \\ 1,584,964,618 & 2,366,083,217 \\ 17,975,588 & 17,975,588\end{array}$


|  | Adjusted | Adjusted | Adjusted | Change in |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep | Correction Over Rep | Proportional | Total |
| IRAQ | 606,192,095 | 0.092 | 0.092 | 0 | 102,192,095 | 102,192,095 |
| IRELAND | 1,984,745,023 | 0.302 | 0.029 | 0 | 1,146,345,023 | 1,146,345,023 |
| ISRAEL | 2,197,328,639 | 0.334 | 0.057 | 0 | 1,269,128,639 | 1,269,128,639 |
| ITALY | 19,409,363,458 | 2.951 | -0.206 | 12,353,863,458 | 0 | 12,353,863,458 |
| JAMAICA | 647,456,779 | 0.098 | 0.077 | 0 | 373,956,779 | 373,956,779 |
| JAPAN | 44,118,530,644 | 6.708 | -0.468 | 30,805,730,644 | 0 | 30,805,730,644 |
| JORDAN | 514,863,786 | 0.078 | 0.033 | 0 | 344,363,786 | 344,363,786 |
| KAZAKHSTAN | 1,104,314,877 | 0.168 | -0.015 | 0 | 738,614,877 | 738,614,877 |
| KENYA | 819,554,437 | 0.125 | 0.058 | 0 | 548,154,437 | 548,154,437 |
| KIRIBATI | 16,910,482 | 0.003 | 0.003 | 0 | 11,310,482 | 11,310,482 |
| KOREA | 10,220,961,081 | 1.554 | -0.108 | 8,587,361,081 | 0 | 8,587,361,081 |
| KUWAIT | 1,381,100,000 | 0.210 | 0.139 | 0 | 0 | 0 |
| KYRGYZ REPUBLIC | 268,151,931 | 0.041 | 0.023 | 0 | 179,351,931 | 179,351,931 |
| LAO PEOPLE S DEM.REP | 159,743,661 | 0.024 | 0.004 | 0 | 106,843,661 | 106,843,661 |
| LATVIA | 382,901,631 | 0.058 | 0.014 | 0 | 256,101,631 | 256,101,631 |
| LEBANON | 613,004,977 | 0.093 | 0.052 | 0 | 410,004,977 | 410,004,977 |
| LESOTHO | 105,388,540 | 0.016 | 0.007 | 0 | 70,488,540 | 70,488,540 |
| LIBERIA | 215,306,674 | 0.033 | 0.033 | 0 | 144,006,674 | 144,006,674 |
| LIBYA | 1,290,010,274 | 0.196 | 0.092 | 0 | 166,310,274 | 166,310,274 |
| LITHUANIA | 435,444,915 | 0.066 | -0.008 | 0 | 291,244,915 | 291,244,915 |
| LUXEMBOURG | 842,806,350 | 0.128 | 0.073 | 0 | 563,706,350 | 563,706,350 |
| MACEDONIA, FYR | 208,059,325 | 0.032 | 0.003 | 0 | 139,159,325 | 139,159,325 |
| MADAGASCAR | 369,010,878 | 0.056 | 0.028 | 0 | 246,810,878 | 246,810,878 |
| MALAWI | 209,569,189 | 0.032 | 0.018 | 0 | 140,169,189 | 140,169,189 |
| MALAYSIA | 3,519,229,427 | 0.535 | 0.062 | 0 | 2,032,629,427 | 2,032,629,427 |
| MALDIVES | 24,761,777 | 0.004 | 0.000 | 0 | 16,561,777 | 16,561,777 |
| MALI | 281,740,711 | 0.043 | 0.023 | 0 | 188,440,711 | 188,440,711 |
| MALTA | 308,012,353 | 0.047 | 0.031 | 0 | 206,012,353 | 206,012,353 |
| MARSHALL ISLANDS, REP | 10,569,051 | 0.002 | 0.002 | 0 | 7,069,051 | 7,069,051 |
| MAURITANIA | 194,470,544 | 0.030 | 0.019 | 0 | 130,070,544 | 130,070,544 |
| MAURITIUS | 306,804,461 | 0.047 | 0.019 | 0 | 205,204,461 | 205,204,461 |
| MEXICO | 11,720,600,022 | 1.782 | -0.124 | 9,134,800,022 | 0 | 9,134,800,022 |
| MICRONESIA, FED.STS. | 15,400,618 | 0.002 | 0.002 | 0 | 10,300,618 | 10,300,618 |
| MOLDOVA | 372,030,607 | 0.057 | 0.043 | 0 | 248,830,607 | 248,830,607 |
| MONGOLIA | 154,308,149 | 0.023 | 0.015 | 0 | 103,208,149 | 103,208,149 |
| MOROCCO | 1,776,204,568 | 0.270 | 0.033 | 0 | 1,188,004,568 | 1,188,004,568 |
| MOZAMBIQUE | 343,041,209 | 0.052 | 0.010 | 0 | 229,441,209 | 229,441,209 |
| MYANMAR | 780,297,961 | 0.119 | -0.023 | 0 | 521,897,961 | 521,897,961 |
| NAMIBIA | 412,193,002 | 0.063 | 0.037 | 0 | 275,693,002 | 275,693,002 |


|  | Adjusted | Adjusted | Adjusted | Change in Quota |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep | Correction Over Rep | Proportional | Total |
| NEPAL | 215,306,674 | 0.033 | -0.035 | 0 | 144,006,674 | 144,006,674 |
| NETHERLANDS | 6,209,139,032 | 0.944 | -0.003 | 0 | 1,046,739,032 | 1,046,739,032 |
| NEW ZEALAND | 1,589,134,572 | 0.242 | 0.075 | 0 | 694,534,572 | 694,534,572 |
| NICARAGUA | 392,564,763 | 0.060 | 0.033 | 0 | 262,564,763 | 262,564,763 |
| NIGER | 198,698,165 | 0.030 | 0.011 | 0 | 132,898,165 | 132,898,165 |
| NIGERIA | 2,108,682,502 | 0.321 | 0.069 | 0 | 355,482,502 | 355,482,502 |
| NORWAY | 2,656,361,447 | 0.404 | 0.045 | 0 | 984,661,447 | 984,661,447 |
| OMAN | 585,827,416 | 0.089 | 0.017 | 0 | 391,827,416 | 391,827,416 |
| PAKISTAN | 3,913,720,966 | 0.595 | -0.044 | 1,309,320,125 | 1,570,700,841 | 2,880,020,966 |
| PALAU | 9,361,160 | 0.001 | 0.001 | 0 | 6,261,160 | 6,261,160 |
| PANAMA | 623,876,001 | 0.095 | 0.056 | 0 | 417,276,001 | 417,276,001 |
| PAPUA NEW GUINEA | 397,396,330 | 0.060 | 0.035 | 0 | 265,796,330 | 265,796,330 |
| PARAGUAY | 301,670,922 | 0.046 | -0.006 | 0 | 201,770,922 | 201,770,922 |
| PERU | 1,927,794,962 | 0.293 | 0.012 | 0 | 1,289,394,962 | 1,289,394,962 |
| PHILIPPINES | 3,933,734,425 | 0.598 | -0.098 | 1,334,587,607 | 1,719,246,818 | 3,053,834,425 |
| POLAND | 5,231,125,136 | 0.795 | -0.058 | 2,334,770,148 | 1,527,354,988 | 3,862,125,136 |
| PORTUGAL | 2,619,312,891 | 0.398 | 0.020 | 0 | 1,751,912,891 | 1,751,912,891 |
| QATAR | 796,604,497 | 0.121 | 0.084 | 0 | 532,804,497 | 532,804,497 |
| ROMANIA | 2,438,793,324 | 0.371 | 0.065 | 0 | 1,408,593,324 | 1,408,593,324 |
| RUSSIA | 15,519,519,263 | 2.360 | -0.165 | 9,574,119,263 | 0 | 9,574,119,263 |
| RWANDA | 241,880,289 | 0.037 | 0.016 | 0 | 161,780,289 | 161,780,289 |
| SAMOA | 35,028,856 | 0.005 | 0.003 | 0 | 23,428,856 | 23,428,856 |
| SAN MARINO | 51,335,392 | 0.008 | 0.008 | 0 | 34,335,392 | 34,335,392 |
| SAO TOME \& PRINCIPE | 22,345,994 | 0.003 | 0.003 | 0 | 14,945,994 | 14,945,994 |
| SAUDI ARABIA | 6,985,500,000 | 1.062 | 0.521 | 0 | 0 | 0 |
| SENEGAL | 488,592,144 | 0.074 | 0.041 | 0 | 326,792,144 | 326,792,144 |
| SERBIA \& MONTENEGRO | 1,107,186,602 | 0.168 | 0.093 | 0 | 639,486,602 | 639,486,602 |
| SEYCHELLES | 26,573,615 | 0.004 | 0.002 | 0 | 17,773,615 | 17,773,615 |
| SIERRA LEONE | 313,145,892 | 0.048 | 0.042 | 0 | 209,445,892 | 209,445,892 |
| SINGAPORE | 1,741,553,201 | 0.265 | 0.059 | 0 | 879,053,201 | 879,053,201 |
| SLOVAK REPUBLIC | 1,079,553,100 | 0.164 | 0.021 | 0 | 722,053,100 | 722,053,100 |
| SLOVENIA | 699,671,198 | 0.106 | 0.028 | 0 | 467,971,198 | 467,971,198 |
| SOLOMON ISLANDS | 31,405,181 | 0.005 | 0.003 | 0 | 21,005,181 | 21,005,181 |
| SOMALIA | 133,472,020 | 0.020 | 0.020 | 0 | 89,272,020 | 89,272,020 |
| SOUTH AFRICA | 5,642,363,543 | 0.858 | -0.080 | 0 | 3,773,863,543 | 3,773,863,543 |
| SPAIN | 11,198,715,706 | 1.703 | -0.119 | 8,149,815,706 | 0 | 8,149,815,706 |
| SRI LANKA | 1,248,355,948 | 0.190 | 0.046 | 0 | 834,955,948 | 834,955,948 |
| ST. KITTS AND NEVIS | 26,875,588 | 0.004 | 0.003 | 0 | 17,975,588 | 17,975,588 |
| ST. LUCIA | 46,201,853 | 0.007 | 0.005 | 0 | 30,901,853 | 30,901,853 |


|  | Adjusted | Adjusted | Adjusted | Change in Quota |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep | Correction Over Rep | Proportional | Total |
| ST. VINCENT \& GRENS. | 25,063,750 | 0.004 | 0.003 | 0 | 16,763,750 | 16,763,750 |
| SUDAN | 512,448,003 | 0.078 | -0.055 | 0 | 342,748,003 | 342,748,003 |
| SURINAME | 278,117,036 | 0.042 | 0.037 | 0 | 186,017,036 | 186,017,036 |
| SWAZILAND | 153,100,258 | 0.023 | 0.013 | 0 | 102,400,258 | 102,400,258 |
| SWEDEN | 3,806,492,700 | 0.579 | 0.076 | 0 | 1,410,992,700 | 1,410,992,700 |
| SWITZERLAND | 3,458,500,000 | 0.526 | 0.088 | 0 | 0 | 0 |
| SYRIAN ARAB REPUBLIC | 886,592,420 | 0.135 | 0.008 | 0 | 592,992,420 | 592,992,420 |
| TAJIKISTAN | 262,716,419 | 0.040 | 0.027 | 0 | 175,716,419 | 175,716,419 |
| TANZANIA | 600,624,088 | 0.091 | 0.049 | 0 | 401,724,088 | 401,724,088 |
| THAILAND | 5,486,907,661 | 0.834 | -0.061 | 2,802,970,706 | 1,602,036,955 | 4,405,007,661 |
| TIMOR-LESTE | 24,761,777 | 0.004 | 0.004 | 0 | 16,561,777 | 16,561,777 |
| TOGO | 221,648,105 | 0.034 | 0.020 | 0 | 148,248,105 | 148,248,105 |
| TONGA | 20,836,130 | 0.003 | 0.002 | 0 | 13,936,130 | 13,936,130 |
| TRINIDAD AND TOBAGO | 794,466,161 | 0.121 | 0.094 | 0 | 458,866,161 | 458,866,161 |
| TUNISIA | 865,152,344 | 0.132 | -0.008 | 0 | 578,652,344 | 578,652,344 |
| TURKEY | 5,628,457,214 | 0.856 | -0.063 | 3,021,091,403 | 1,643,365,811 | 4,664,457,214 |
| TURKMENISTAN | 227,083,617 | 0.035 | -0.020 | 0 | 151,883,617 | 151,883,617 |
| UGANDA | 545,061,075 | 0.083 | 0.015 | 0 | 364,561,075 | 364,561,075 |
| UKRAINE | 3,247,936,751 | 0.494 | -0.003 | 0 | 1,875,936,751 | 1,875,936,751 |
| UNITED ARAB EMIRATES | 1,448,077,923 | 0.220 | 0.059 | 0 | 836,377,923 | 836,377,923 |
| UNITED KINGDOM | 20,003,489,516 | 3.041 | -0.212 | 9,264,989,516 | 0 | 9,264,989,516 |
| UNITED STATES | 132,216,090,636 | 20.103 | -1.403 | 95,066,790,636 | 0 | 95,066,790,636 |
| URUGUAY | 925,546,923 | 0.141 | 0.055 | 0 | 619,046,923 | 619,046,923 |
| UZBEKISTAN | 832,237,299 | 0.127 | 0.041 | 0 | 556,637,299 | 556,637,299 |
| VANUATU | 51,335,392 | 0.008 | 0.007 | 0 | 34,335,392 | 34,335,392 |
| VENEZUELA, REP. BOL. | 2,659,100,000 | 0.404 | 0.135 | 0 | 0 | 0 |
| VIETNAM | 1,858,443,596 | 0.283 | -0.086 | 455,947,496 | 1,073,396,100 | 1,529,343,596 |
| YEMEN, REPUBLIC OF | 735,303,999 | 0.112 | 0.079 | 0 | 491,803,999 | 491,803,999 |
| ZAMBIA | 702,575,231 | 0.107 | 0.089 | 0 | 213,475,231 | 213,475,231 |
| ZIMBABWE | 836,604,116 | 0.127 | 0.070 | 0 | 483,204,116 | 483,204,116 |

Annex IIC. Final Quota Adjustment in the Mandatory Quota Reduction Scenario

|  | Adjusted | Adjusted | Adjusted |
| :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep |
| AFGHANISTAN, I.S. OF | 161,900,000 | 0.070 | 0.070 |
| ALBANIA | 48,700,000 | 0.021 | -0.007 |
| ALGERIA | 824,278,316 | 0.356 | -0.031 |
| ANGOLA | 286,300,000 | 0.124 | 0.062 |
| ANTIGUA AND BARBUDA | 13,500,000 | 0.006 | 0.004 |
| ARGENTINA | 2,117,100,000 | 0.915 | 0.016 |
| ARMENIA | 92,000,000 | 0.040 | 0.021 |
| AUSTRALIA | 2,365,489,078 | 1.023 | -0.089 |
| AUSTRIA | 1,065,698,743 | 0.461 | -0.040 |
| AZERBAIJAN | 160,900,000 | 0.070 | 0.015 |
| BAHAMAS, THE | 130,300,000 | 0.056 | 0.045 |
| BAHRAIN, KINGDOM OF | 135,000,000 | 0.058 | 0.033 |
| BANGLADESH | 1,063,543,203 | 0.460 | -0.040 |
| BARBADOS | 67,500,000 | 0.029 | 0.021 |
| BELARUS | 386,400,000 | 0.167 | 0.055 |
| BELGIUM | 1,246,332,955 | 0.539 | -0.047 |
| BELIZE | 18,800,000 | 0.008 | 0.005 |
| BENIN | 61,900,000 | 0.027 | 0.012 |
| BHUTAN | 6,300,000 | 0.003 | -0.002 |
| BOLIVIA | 171,500,000 | 0.074 | 0.030 |
| BOSNIA \& HERZEGOVINA | 169,100,000 | 0.073 | 0.073 |
| BOTSWANA | 63,000,000 | 0.027 | -0.003 |
| BRAZIL | 6,513,099,121 | 2.815 | -0.016 |
| BULGARIA | 252,198,125 | 0.109 | -0.009 |
| BURKINA FASO | 60,200,000 | 0.026 | -0.002 |
| BURUNDI | 77,000,000 | 0.033 | 0.024 |
| CAMBODIA | 87,500,000 | 0.038 | -0.006 |
| CAMEROON | 185,700,000 | 0.080 | 0.022 |
| CANADA | 4,443,754,392 | 1.921 | -0.048 |
| CAPE VERDE | 9,600,000 | 0.004 | -0.001 |
| CENTRAL AFRICAN REP. | 55,700,000 | 0.024 | 0.015 |
| CHAD | 56,000,000 | 0.024 | 0.006 |
| CHILE | 856,100,000 | 0.370 | 0.053 |
| CHINA,P.R.: MAINLAND | 28,886,062,919 | 12.487 | -0.072 |
| COLOMBIA | 1,219,173,157 | 0.527 | -0.046 |
| COMOROS | 8,900,000 | 0.004 | 0.002 |
|  |  |  |  |


|  | Adjusted | Adjusted | Adjusted |
| :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep |
| CONGO, DEM. REP. OF | 140,541,177 | 0.061 | -0.005 |
| CONGO, REPUBLIC OF | 84,600,000 | 0.037 | 0.029 |
| COSTA RICA | 164,100,000 | 0.071 | -0.005 |
| COTE D IVOIRE | 325,200,000 | 0.141 | 0.086 |
| CROATIA | 365,100,000 | 0.158 | 0.065 |
| CYPRUS | 139,600,000 | 0.060 | 0.031 |
| CZECH REPUBLIC | 819,300,000 | 0.354 | 0.031 |
| DENMARK | 726,847,929 | 0.314 | -0.027 |
| DJIBOUTI | 15,900,000 | 0.007 | 0.004 |
| DOMINICA | 8,200,000 | 0.004 | 0.003 |
| DOMINICAN REPUBLIC | 218,900,000 | 0.095 | -0.016 |
| ECUADOR | 302,300,000 | 0.131 | 0.032 |
| EGYPT | 1,174,474,438 | 0.508 | -0.007 |
| EL SALVADOR | 171,300,000 | 0.074 | 0.018 |
| EQUATORIAL GUINEA | 32,600,000 | 0.014 | -0.012 |
| ERITREA | 15,900,000 | 0.007 | 0.007 |
| ESTONIA | 65,200,000 | 0.028 | -0.005 |
| ETHIOPIA | 133,700,000 | 0.058 | -0.040 |
| FIJI | 70,300,000 | 0.030 | 0.021 |
| FINLAND | 610,448,794 | 0.264 | -0.023 |
| FRANCE | 7,573,644,664 | 3.274 | -0.037 |
| GABON | 154,300,000 | 0.067 | 0.050 |
| GAMBIA, THE | 31,100,000 | 0.013 | 0.008 |
| GEORGIA | 150,300,000 | 0.065 | 0.041 |
| GERMANY | 10,646,383,147 | 4.602 | -0.052 |
| GHANA | 369,000,000 | 0.160 | 0.071 |
| GREECE | 823,000,000 | 0.356 | -0.051 |
| GRENADA | 11,700,000 | 0.005 | 0.003 |
| GUATEMALA | 210,200,000 | 0.091 | -0.010 |
| GUINEA | 107,100,000 | 0.046 | 0.013 |
| GUINEA-BISSAU | 14,200,000 | 0.006 | 0.004 |
| GUYANA | 90,900,000 | 0.039 | 0.032 |
| HAITI | 81,900,000 | 0.035 | 0.007 |
| HONDURAS | 129,500,000 | 0.056 | 0.020 |
| HUNGARY | 610,017,686 | 0.264 | -0.023 |
| ICELAND | 117,600,000 | 0.051 | 0.033 |
| INDIA | 12,942,772,970 | 5.595 | -0.083 |
| INDONESIA | 3,325,749,373 | 1.438 | -0.016 |
| IRAN, I.R. OF | 1,910,670,238 | 0.826 | -0.072 |


|  | Adjusted | Adjusted | Adjusted |
| :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep |
| IRAQ | 0 | 0.000 | 0.000 |
| IRELAND | 581,133,457 | 0.251 | -0.022 |
| ISRAEL | 590,617,831 | 0.255 | -0.022 |
| ITALY | 7,261,474,108 | 3.139 | -0.018 |
| JAMAICA | 44,835,222 | 0.019 | -0.002 |
| JAPAN | 16,580,490,154 | 7.167 | -0.009 |
| JORDAN | 170,500,000 | 0.074 | 0.029 |
| KAZAKHSTAN | 365,700,000 | 0.158 | -0.025 |
| KENYA | 271,400,000 | 0.117 | 0.050 |
| KIRIBATI | 5,600,000 | 0.002 | 0.002 |
| KOREA | 3,776,503,973 | 1.633 | -0.030 |
| KUWAIT | 150,456,659 | 0.065 | -0.006 |
| KYRGYZ REPUBLIC | 88,800,000 | 0.038 | 0.021 |
| LAO PEOPLE S DEM.REP | 52,900,000 | 0.023 | 0.003 |
| LATVIA | 126,800,000 | 0.055 | 0.011 |
| LEBANON | 203,000,000 | 0.088 | 0.047 |
| LESOTHO | 34,900,000 | 0.015 | 0.006 |
| LIBERIA | 71,300,000 | 0.031 | 0.031 |
| LIBYA | 222,451,679 | 0.096 | -0.008 |
| LITHUANIA | 144,200,000 | 0.062 | -0.012 |
| LUXEMBOURG | 279,100,000 | 0.121 | 0.066 |
| MACEDONIA, FYR | 68,900,000 | 0.030 | 0.002 |
| MADAGASCAR | 122,200,000 | 0.053 | 0.025 |
| MALAWI | 69,400,000 | 0.030 | 0.016 |
| MALAYSIA | 1,005,774,744 | 0.435 | -0.038 |
| MALDIVES | 8,200,000 | 0.004 | -0.001 |
| MALI | 93,300,000 | 0.040 | 0.020 |
| MALTA | 102,000,000 | 0.044 | 0.029 |
| MARSHALL ISLANDS,REP | 3,500,000 | 0.002 | 0.002 |
| MAURITANIA | 64,400,000 | 0.028 | 0.018 |
| MAURITIUS | 101,600,000 | 0.044 | 0.017 |
| MEXICO | 4,302,915,088 | 1.860 | -0.046 |
| MICRONESIA, FED.STS. | 5,100,000 | 0.002 | 0.002 |
| MOLDOVA | 123,200,000 | 0.053 | 0.040 |
| MONGOLIA | 51,100,000 | 0.022 | 0.013 |
| MOROCCO | 588,200,000 | 0.254 | 0.018 |
| MOZAMBIQUE | 113,600,000 | 0.049 | 0.007 |
| MYANMAR | 258,400,000 | 0.112 | -0.030 |
| NAMIBIA | 136,500,000 | 0.059 | 0.034 |


|  | Adjusted | Adjusted | Adjusted |
| :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep |
| NEPAL | 71,300,000 | 0.031 | -0.037 |
| NETHERLANDS | 2,016,291,675 | 0.872 | -0.076 |
| NEW ZEALAND | 354,370,698 | 0.153 | -0.013 |
| NICARAGUA | 130,000,000 | 0.056 | 0.029 |
| NIGER | 65,800,000 | 0.028 | 0.009 |
| NIGERIA | 535,436,019 | 0.231 | -0.020 |
| NORWAY | 763,923,209 | 0.330 | -0.029 |
| OMAN | 194,000,000 | 0.084 | 0.012 |
| PAKISTAN | 1,358,852,119 | 0.587 | -0.051 |
| PALAU | 3,100,000 | 0.001 | 0.001 |
| PANAMA | 206,600,000 | 0.089 | 0.050 |
| PAPUA NEW GUINEA | 131,600,000 | 0.057 | 0.032 |
| PARAGUAY | 99,900,000 | 0.043 | -0.009 |
| PERU | 638,400,000 | 0.276 | -0.006 |
| PHILIPPINES | 1,480,855,656 | 0.640 | -0.056 |
| POLAND | 1,816,257,606 | 0.785 | -0.068 |
| PORTUGAL | 867,400,000 | 0.375 | -0.003 |
| QATAR | 263,800,000 | 0.114 | 0.077 |
| ROMANIA | 650,110,722 | 0.281 | -0.024 |
| RUSSIA | 5,644,491,705 | 2.440 | -0.084 |
| RWANDA | 80,100,000 | 0.035 | 0.014 |
| SAMOA | 11,600,000 | 0.005 | 0.003 |
| SAN MARINO | 17,000,000 | 0.007 | 0.007 |
| SAO TOME \& PRINCIPE | 7,400,000 | 0.003 | 0.003 |
| SAUDI ARABIA | 1,151,489,216 | 0.498 | -0.043 |
| SENEGAL | 161,800,000 | 0.070 | 0.036 |
| SERBIA \& MONTENEGRO | 160,372,141 | 0.069 | -0.006 |
| SEYCHELLES | 8,800,000 | 0.004 | 0.002 |
| SIERRA LEONE | 103,700,000 | 0.045 | 0.039 |
| SINGAPORE | 438,867,848 | 0.190 | -0.017 |
| SLOVAK REPUBLIC | 357,500,000 | 0.155 | 0.012 |
| SLOVENIA | 231,700,000 | 0.100 | 0.022 |
| SOLOMON ISLANDS | 10,400,000 | 0.004 | 0.003 |
| SOMALIA | 44,200,000 | 0.019 | 0.019 |
| SOUTH AFRICA | 2,096,072,481 | 0.906 | -0.031 |
| SPAIN | 4,111,318,763 | 1.777 | -0.044 |
| SRI LANKA | 413,400,000 | 0.179 | 0.034 |
| ST. KITTS AND NEVIS | 8,900,000 | 0.004 | 0.003 |
| ST. LUCIA | 15,300,000 | 0.007 | 0.005 |


|  | Adjusted | Adjusted | Adjusted |
| :---: | :---: | :---: | :---: |
| COUNTRYNAME | Quota | Quota Share | Over Rep |
| ST. VINCENT \& GRENS. | 8,300,000 | 0.004 | 0.003 |
| SUDAN | 169,700,000 | 0.073 | -0.060 |
| SURINAME | 92,100,000 | 0.040 | 0.035 |
| SWAZILAND | 50,700,000 | 0.022 | 0.012 |
| SWEDEN | 1,070,440,930 | 0.463 | -0.040 |
| SWITZERLAND | 930,761,968 | 0.402 | -0.035 |
| SYRIAN ARAB REPUBLIC | 293,600,000 | 0.127 | 0.000 |
| TAJIKISTAN | 87,000,000 | 0.038 | 0.025 |
| TANZANIA | 198,900,000 | 0.086 | 0.044 |
| THAILAND | 1,905,065,835 | 0.824 | -0.072 |
| TIMOR-LESTE | 8,200,000 | 0.004 | 0.004 |
| TOGO | 73,400,000 | 0.032 | 0.018 |
| TONGA | 6,900,000 | 0.003 | 0.002 |
| TRINIDAD AND TOBAGO | 57,768,459 | 0.025 | -0.002 |
| TUNISIA | 286,500,000 | 0.124 | -0.015 |
| TURKEY | 1,954,212,136 | 0.845 | -0.074 |
| TURKMENISTAN | 75,200,000 | 0.033 | -0.022 |
| UGANDA | 180,500,000 | 0.078 | 0.010 |
| UKRAINE | 1,056,214,369 | 0.457 | -0.040 |
| UNITED ARAB EMIRATES | 343,593,001 | 0.149 | -0.013 |
| UNITED KINGDOM | 7,442,041,930 | 3.217 | -0.037 |
| UNITED STATES | 49,464,977,092 | 21.383 | -0.123 |
| URUGUAY | 306,500,000 | 0.132 | 0.046 |
| UZBEKISTAN | 275,600,000 | 0.119 | 0.034 |
| VANUATU | 17,000,000 | 0.007 | 0.006 |
| VENEZUELA, REP. BOL. | 573,373,514 | 0.248 | -0.022 |
| VIETNAM | 785,047,496 | 0.339 | -0.030 |
| YEMEN, REPUBLIC OF | 243,500,000 | 0.105 | 0.073 |
| ZAMBIA | 38,368,604 | 0.017 | -0.001 |
| ZIMBABWE | 122,003,537 | 0.053 | -0.005 |

## Annex III. Independent-Professional Board Scenario

| Chair | Voting Power in Percent | Number of Countries |
| :---: | :---: | :---: |
| 1.- Euro (Germany, France, Belgium, Netherlands, Finland |  |  |
| Italy, Spain, Portugal, Greece, Austria, Luxembourg, | 23.065 | 15 |
| Iceland, Ireland, Malta, San Marino) |  |  |
| 2.- U.S. Dollar (U.S., Panama, El Salvador, Ecuador) | 17.436 | 4 |
| 3.- East Asia (Japan, Fiji, Myanmar) | 6.305 | 3 |
| 4.- Anglo (UK, St. Kitts, St Lucia, St. Vincent) | 4.997 | 4 |
| 5.- Arabian (Saudi Arabia, United Arab Emirates, Bahrain) | 3.589 | 3 |
| 6.- West/Central Asia (Russia, Tajikistan, Azerbaijan, |  |  |
| Kyrgyzstan, Turkmenistan, Uzbekistan) | 3.118 | 6 |
| 7.- North/Central Asia (China, Mongolia, Lao) | 3.010 | 3 |
| 8.- Anglo American (Canada, Antigua and Barbuda, Belie, |  |  |
| Dominica, Grenada) | 3.009 | 5 |
| 9.- Middle East (Egypt, Jordan, Lebanon, Kuwait, Iraq |  |  |
| Libya, Maldives, Oman, Qatar, Syria, Yemen) | 2.891 | 11 |
| 10.- Latin North (Mexico, Venezuela, Costa Rica, Guatemala |  |  |
| Honduras, Nicaragua) | 2.771 | 6 |
| 11.- North Europe (Sweden, Norway, Denmark) | 2.659 | 3 |
| 12.- North Africa and Mid East (Iran, Morocco, Afghanistan, Tunisia |  |  |
| Algeria, Ghana, Pakistan | 2.467 | 7 |
| 13.- South East Asia (Indonesia, Cambodia, Brunei, Malaysia, |  |  |
| Philippines, Nepal, Tonga, Vietnam) | 2.462 | 8 |
| 14.- Latin Central (Brazil, Colombia, Dominican Republic, Guyana, Haiti, Suriname, |  |  |
| Trinidad, Jamaica, Bahamas, Barbados) | 2.460 | 10 |
| 15.- Indo (India, Bangladesh, Sri Lanka |  |  |
| Bhutan, Timor Leste) | 2.411 | 5 |
| 16.- Mixed I (Turkey, Kazakhstan, Singapore, Thailand, Korea) | 2.314 | 5 |
| 17.- East Europe (Belarus, Ukraine, Romania, Moldova, |  |  |
| Macedonia, Georgia, Bosnia and Herzegovina, Armenia |  |  |
| Albania, Bulgaria, Serbia and Montenegro) | 2.217 | 11 |
| 18.- Central Europe (Czech Republic, Poland, Hungary, Croatia, Slovenia, |  |  |
| Slovak Republic, Estonia, Latvia, Lithuania, | 2.180 | 9 |
| 19.- Oceanic (Australia, New Zealand, Kiribati, Marshall Is., Micronesia, |  |  |
| Slovak Republic, Estonia, Latvia, Lithuania, | 2.116 | 11 |
| 20.- Mixed II (Switzerland, Israel, Cyprus) |  |  |
| Slovak Republic, Estonia, Latvia, Lithuania, | 2.115 | 3 |
| 21.- Latin South (Argentina, Bolivia, Chile |  |  |
| Paraguay, Peru, Uruguay) | 1.995 | 6 |
| 22. Africa I (Mozambique, Cameroon, Sudan, Sao Tome, Djibouti, Guinea-Bissau, |  |  |
| Madagascar, Guinea, Mauritius, Congo Republic |  |  |
| Botswana, South Africa, Namibia | 1.524 | 13 |
| 23.- Africa II (Nigeria, Benin, Burundi, Ethiopia, Eritrea, Sierra Leone, |  |  |
| Gambia, Lesotho, Malawi, Cape Verde, Burkina Faso, Comoros |  |  |
| Swaziland, Tanzania, Uganda | 1.455 | 15 |
| 24.- .- Africa III (Angola, Kenya, Zambia, Central African Rep., Chad, Cote d'Ivoire |  |  |
| Congo Democratic Rep., Equatorial Guinea, Gabon, Mali |  |  |
| Mauritania, Niger, Rwanda, Senegal, Togo) | 1.433 | 15 |

## References

Alberich, I. and M. Martínez (2000). "Quotas and Representation in the International Monetary Fund". International Department, Bank of Spain.

Bordo, Michael, and Harold James. 2000. The International Monetary Fund: It's Present Role in Historical Perspective. NBER Working Paper 7724. Cambridge, Mass.:
National Bureau of Economic Research.
Buira, Ariel (2001a): "A new voting structure for the IMF".
—_. (2001b): "The Governance of The International Monetary Fund", edited by Inge Kaul et al, Oxford University Press
——. (2004): Can More Representative Governance Improve Global Economic Performance?

De Gregorio J, B. Eichengreen, T. Ito, C. Wyplosz (1999) "An Independent and Accountable IMF
by CEPR. The Brookings Institution, 134 pp
Feldstein, Martin. 1998. "Refocusing the IMF." Foreign Affairs 77 (2): 20-33.
IMF (International Monetary Fund). 1993. "Articles of Agreement." Washington, D.C. [http://www.imf.org/ external/pubs/ft/aa/].
—_. 2000b. "Report to the IMF Executive Board of the Quota Formula Review Group." Washington, D.C.
—_ 2001a Alternative Quota Formulas: Considerations
—_. 2001b. "Review of the Fund's Experience in Governance Issues."
Washington, D.C. [http://www.imf.org/external/np/gov/2001/eng/report.htm].
——. 2004 Quotas-Updated Calculations.
——. 2004a. World economic Outlook database for the September 2004 round.
——. Various issues. International Financial Statistics. Washington, D.C.
Krueger, Anne O. 1997. Whither the World Bank and the IMF? NBER Working Paper 6327. Cambridge, Mass.: National Bureau of Economic Research.

Mikesell, Raymond F. 1994. "The Bretton Woods Debates: A Memoir." Essays in International Finance 192. Princeton University, International Finance Section, Princeton, N.J.

Standard and Poor's. Sovereign Credit Ratings, December 2004.
World Bank. 2001. World Development Indicators. Washington, D.C.
——. Various years. World Development Report. New York: Oxford University


[^0]:    * Paper prepared for the Technical Group Meeting of the Group of XXIV, Manila Philippines, March 2005. Preliminary and for discussions only, please do not quote or cite without the author's permission and direct comments to GLEFORT@ZAHLERYCO.CL
    ${ }^{* *}$ The views expressed in this paper, as well as all errors remaining are my own.

[^1]:    ${ }^{1}$ Bordo and James (2000) describe the market failures and the public goods provided by the IMF.
    ${ }^{2}$ Krueger (1997) describes how the roles and responsibilities of the Fund have evolved over time as the institution adapted in the service of the membership.
    ${ }^{3}$ Buira (2004) discusses the relationship between governance and Fund effectiveness,
    ${ }^{4}$ Buira (2001a) and (2001b) refer to the need for a more representative quota structure, while Alberich and Martinez (2000) ask for the effective quota structure to better reflect that of the quota formula.

[^2]:    ${ }^{5}$ See IMF (2000b), (2001a), (2004) for information on the status of the discussion on quota formulas. Variables like exposure to the volatility of terms of trade or capital flows are not represented as volatility ratios but as standard deviation and consequently highly correlated to the scale variables.
    ${ }^{6}$ See IMF (2004)

[^3]:    ${ }^{7}$ Standard and Poor's sovereign credit rating as of December 2004 was used. See Annex IA and IB for the list of countries and data set on the variables used.

[^4]:    ${ }^{8}$ The over-representation of developing countries could be an issue of classification. To the extent that Argentina is successful in its debt exchange and is reinstated among the borrowing nations it would be classified among emerging markets rather than as developing country, thus reducing the over-representation of the latter group at the Executive Board.

[^5]:    ${ }^{9}$ The value of the "t-test" for the IMF-Position coefficient is just over 1 , indicating that this coefficient is different from zero with 30 percent of significance.

[^6]:    ${ }^{10}$ Such an increase in basic votes would restore their original level of 11 percent of the voting power.
    ${ }^{11}$ A different matter would be to consider the additional variables like Reserves or volatility of external payments as ratios to a scale variable like GDP, imports or some other. In such a case the information content of the additional variables could be significant, however developing and testing quota formulas would be quite an exercise in itself, especially if the purpose is to convince about its special practicality and usefulness.

[^7]:    ${ }^{12}$ The tolerance used of $+/-0.1$ percent of total quotas greatly simplifies the adjustment procedure concentrating the effort in the large distortions. However, this procedure implies disregarding distortions that are small in absolute terms but not relative to small countries quotas. The tolerance could be reduced over time as the major distortions are corrected and more precision could be demanded.

[^8]:    ${ }^{13}$ The term independent professional Executive Director is used in contrast to the political representative ED that defends the interest of the single country that nominates him or her. To the extent that the Executive Board functions as a parliament in which the larger groups are more than proportionally represented, the under representation of emerging markets and developing countries is amplified.

[^9]:    ${ }^{14}$ See Eichengreen and De Gregorio (1999)

[^10]:    ${ }^{15}$ It is possible to consider other limits, however more than fifteen countries in a single chair would almost repeat the current condition of the African chairs, and less than fifteen as a maximum would require a second Euro chair. Increasing to four the minimum number of countries would not have a major impact in the structure of the Board, four small countries would move to the two advanced country chairs (Nordic and Swiss) and two emerging market chair (China and Saudi) with only three constituents.

