An Estimation of IMF Quotas based on a formula derived from the G-24 Ministers Communiqué

G24 Secretariat[1]

Quota increases have been largely equiproportional and has tended to perpetuate the post-war economic structure of the 1950s. Consequently, present day quotas are far from representative of the current sizes of the economies, of their ability to contribute resources to the Fund or of their importance in world trade and financial markets.

To address the problem of misrepresentation and the increasing preasure to modify the current quota formula, the Quota Formula Review Group (QFRG)established by the MD of the IMF in 1999 proposed the adoption of a simplified formula with two variables which will, in their judgement, best represent 1) the member's ability to contribute and 2) the member's need for IMF resources: i.e. GDP and the variability of current receipts and net long term capital flows, with a coefficient for GDP twice as large as that for variability.

In response to the under-representation of developing countries in the governance of the Bretton Woods institutions, in their Communiqué of October 2004 Ministers of the G-24 stated that enhancing the representation of developing countries requires a new quota formula that:

> *"(...) give greater weight to measures of gross domestic product in terms of purchasing power parity, and take into account the vulnerabilities of developing countries to movements in commodity prices, the volatility of capital movements, and other exogenous shocks." Paragraph 10, Communiqué October 2004.*

The G-24 Secretariat have estimated the quota according to a new formula based on those two factors, GDP in terms of purchasing power parity (ppp) and variability of exports

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[1] This note is based on the Chapter 1 by A.Buira, "The Bretton Woods Institutions: Governance without Legitimacy?" in*"Reforming the Governance of the IMF and World Bank"* edited by Ariel.Buira, London, Anthem Press(2005). forthcoming.

and capital flows[2]. Since Ministers did not assign weights to these factors, the estimates below simulate different results by assigning different weights to GDPppp and volatility. The weights assigned to GDP starts at 0.6 rising to a maximum of 1 and for variability at 0.4 declining to zero.

Table 1 shows current shares of total votes by region based on the current quota formula and basic votes, Table 2 presents the simulation for different weights of GDPppp and volatility and Table 3 shows the result of the detailed calculated quota for each member country.

Table 1. Current Voting Power (in votes and in percent, %)

Group of Countries	Votes Quota	Basic Votes	Total Votes	% Total Votes quota	% Total Basic Votes	% Total Votes
G7 Countries	983,720.00	1,750	985,470	46.17	3.80	45.29
Other Industrial Countries	332,624.00	4,750	337,374	15.61	10.33	15.50
Total Industrialized Countries	**1,316,344.00**	**6,500**	**1,322,844**	**61.78**	**14.13**	**60.79**
	-		-	-	0.00	0.00
Africa	110,734.00	12,750	123,484	5.20	27.72	5.67
Asia	219,957.00	7,750	227,707	10.32	16.85	10.46
Middle East	163,007.00	4,000	167,007	7.65	8.70	7.67
Latin America and the Caribbean	159,339.00	8,000	167,339	7.48	17.39	7.69
Transition Economies	161,156.00	7,000	168,156	7.56	15.22	7.73
Total Developing Countries	**814,193.00**	**39,500**	853,693	**38.22**	**85.87**	**39.23**
TOTAL	2,130,537.00	46,000	2,176,037	100.00	100.00	100.00

Source: IMF--Quotas-A Fact Sheet

The measurement of GDP in terms of ppp, eliminates the distortions arising from exchange rate volatility[3] and a measurement bias against developing countries arising from the undervaluation of services and non tradables and is considered the best basis for international comparisons by statisticians[4]. The introduction of volatility as a factor in the

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[2] Variability estimates based on dos Reis (2005) and IMF Financial Department publications (2003) and (2004).

[3] i.e. the exchange rate between the euro and the US dollar has shown variations of 65% in only five years.

quota formula, favors an increase in the quota shares of developing countries since these countries are more subject to capital volatility and commodity shocks.

When the *maximum weight is assigned to GDPppp* (GDPppp weight=1, Volatility weight=0). Industrial countries retain a preponderant position relative to developing countries, although industrial countries' shares of total votes declines by 9 percentage points to 52 per cent and developing countries increase their total votes to 48 percent in the simulation exercises for the year 2003. According to the IMF's World Economic Outlook (WEO) estimates and projection for GDPppp growth for the period 2004-2006, developing countries will represent 49% of the world economy in 2004 and by 2006 they will account for 50.3% while industrial countries will represent 49.7%.

In contrast, when the *maximum weight is assigned to volatility*, (i.e. 40%) developing countries gain the maximum shares of total votes (from 39 per cent to 66 percent) as they are the most affected by volatility in exports and capital. In particular, the inclusion of variability of commodity prices and capital movements greatly favors small commodity producers such as most African countries.

Note that while the quota formula can be changed by fifty per cent of votes, increases in basic votes can take several years as they require an amendment of the Article of Agreement. As shown below, a rebalancing of votes in favor of developing countries can be attained by simply changing the quota formula. In relative terms, the measurement of GDP in terms of ppp tends to favor larger emerging market countries while the inclusion of volatility of exports and capital flows is of greater benefit to small commodity producers.

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[4] See paper by former Director of the Fund's Statistics Dept. J.B.MacLenaghan, "Purchasing Power Parities and Comparisons of GDP in IMF Quota Calculations" in "*Reforming the Governance of the IMF and World Bank*" London, Anthem Press(2005).;also S. Ahmed "Purchasing Power Parity for International Comparisons of Poverty: Sources and Methods" in website: http//webworldbank.org/wsite/external/datastitics/cpext/o, page PK

Table 2. Regional Distribution of Calculated Quota with different weights for GDP(ppp) and Volatility, maintaining Basic Votes at current levels. (in percent, %)

Country Groupings	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
G7 Countries	26.26	30.51	34.76	39.01	43.26
Other Industrial Countries	7.86	7.99	8.12	8.25	8.38
Total Industrialized Countries	34.12	38.50	42.88	47.26	51.64
Africa	15.07	12.27	9.47	6.67	3.86
Asia	20.76	22.15	23.54	24.93	26.31
Middle East	8.27	7.17	6.06	4.96	3.85
Latin America and the Caribbean	9.95	9.42	8.89	8.36	7.84
Transition Economies	11.83	10.50	9.16	7.83	6.49
Total Developing Countries	65.88	61.50	57.12	52.74	48.36
TOTAL	100.00	100.00	100.00	100.00	100.00

Table 3. Country Distribution of Calculated Quota with different weights for GDP(ppp) and Volatility, maintaining Basic Votes at current levels. (in percent,

G-7 Countries

Country	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
Canada	0.0119	0.0137	0.0156	0.0174	0.0192
France	0.0192	0.0223	0.0254	0.0285	0.0315
Germany	0.0270	0.0312	0.0355	0.0397	0.0439
Italy	0.0186	0.0214	0.0243	0.0271	0.0300
Japan	0.0412	0.0480	0.0548	0.0616	0.0684
United Kingdom	0.0195	0.0225	0.0255	0.0285	0.0315
United States	0.1252	0.1459	0.1666	0.1873	0.2080
	0.2626	0.3051	0.3476	0.3901	0.4326

Other Industrialized Countries

Country	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
Australia	0.0068	0.0079	0.0089	0.0099	0.0110
Austria	0.0032	0.0036	0.0040	0.0044	0.0048
Belgium	0.0044	0.0047	0.0051	0.0054	0.0058
Cyprus	0.0012	0.0010	0.0008	0.0006	0.0004
Denmark	0.0030	0.0031	0.0032	0.0033	0.0034
Finland	0.0026	0.0027	0.0028	0.0028	0.0029
Greece	0.0037	0.0038	0.0039	0.0040	0.0041
Iceland	0.0007	0.0006	0.0005	0.0004	0.0003
Ireland	0.0075	0.0063	0.0052	0.0040	0.0028
Israel	0.0027	0.0027	0.0027	0.0027	0.0027
Luxembourg	0.0098	0.0075	0.0052	0.0029	0.0006
Netherlands	0.0060	0.0068	0.0075	0.0082	0.0089
New Zealand	0.0020	0.0020	0.0020	0.0019	0.0019
Norway	0.0031	0.0032	0.0033	0.0034	0.0035
Portugal	0.0029	0.0031	0.0033	0.0035	0.0037
San Marino	0.0001	0.0001	0.0001	0.0001	0.0001
Spain	0.0113	0.0129	0.0146	0.0162	0.0178
Sweden	0.0037	0.0040	0.0042	0.0045	0.0047
Switzerland	0.0036	0.0038	0.0040	0.0041	0.0043
	0.0786	0.0799	0.0812	0.0825	0.0838

Africa

Country	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
Algeria	0.0035	0.0037	0.0038	0.0039	0.0040
Angola	0.0107	0.0082	0.0057	0.0032	0.0007
Benin	0.0021	0.0016	0.0012	0.0007	0.0003
Botswana	0.0019	0.0015	0.0012	0.0008	0.0004
Burkina Faso	0.0012	0.0010	0.0008	0.0006	0.0004
Burundi	0.0015	0.0012	0.0009	0.0005	0.0002
Cameroon	0.0017	0.0014	0.0012	0.0010	0.0008
Cape Verde	0.0015	0.0012	0.0008	0.0005	0.0002
Central African Republic	0.0018	0.0014	0.0010	0.0006	0.0002
Chad	0.0016	0.0012	0.0009	0.0006	0.0003
Comoros	0.0020	0.0015	0.0011	0.0006	0.0001
Congo, Dem. Republic of	0.0025	0.0021	0.0016	0.0012	0.0008
Congo, Republic of	0.0037	0.0028	0.0019	0.0011	0.0002
Cote d'Ivoire	0.0015	0.0013	0.0011	0.0008	0.0006
Djibouti	0.0082	0.0062	0.0042	0.0022	0.0001
Equatorial Guinea	0.0099	0.0075	0.0051	0.0028	0.0004
Eritrea	0.0064	0.0048	0.0033	0.0017	0.0002
Ethiopia	0.0076	0.0060	0.0044	0.0027	0.0011
Gabon	0.0015	0.0012	0.0009	0.0006	0.0003
Gambia, The	0.0023	0.0017	0.0012	0.0007	0.0002
Ghana	0.0021	0.0018	0.0016	0.0013	0.0010
Guinea	0.0010	0.0008	0.0007	0.0006	0.0004
Guinea-Bissau	0.0022	0.0017	0.0012	0.0006	0.0001
Kenya	0.0024	0.0020	0.0016	0.0012	0.0008
Lesotho	0.0020	0.0015	0.0011	0.0007	0.0002
Liberia	0.0026	0.0020	0.0014	0.0007	0.0001
Madagascar	0.0012	0.0010	0.0008	0.0006	0.0004
Malawi	0.0026	0.0020	0.0014	0.0008	0.0002
Mali	0.0012	0.0010	0.0008	0.0006	0.0003

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Mauritania	0.0017	0.0014	0.0010	0.0006	0.0002
Mauritius	0.0016	0.0013	0.0010	0.0007	0.0004
Morocco	0.0019	0.0021	0.0022	0.0023	0.0025
Mozambique	0.0116	0.0088	0.0060	0.0033	0.0005
Namibia	0.0012	0.0010	0.0008	0.0006	0.0004
Niger	0.0013	0.0011	0.0008	0.0006	0.0003
Nigeria	0.0055	0.0049	0.0042	0.0036	0.0030
Rwanda	0.0054	0.0041	0.0029	0.0016	0.0003
Sao Tome and Principe	0.0035	0.0027	0.0018	0.0010	0.0001
Senegal	0.0015	0.0013	0.0010	0.0007	0.0004
Seychelles	0.0021	0.0016	0.0011	0.0006	0.0001
Sierra Leone	0.0019	0.0015	0.0010	0.0006	0.0002
Somalia	0.0001	0.0001	0.0001	0.0001	0.0001
South Africa	0.0059	0.0067	0.0076	0.0084	0.0092
Sudan	0.0019	0.0018	0.0017	0.0016	0.0015
Swaziland	0.0017	0.0013	0.0009	0.0006	0.0002
Tanzania	0.0012	0.0010	0.0009	0.0007	0.0005
Togo	0.0021	0.0017	0.0012	0.0007	0.0003
Tunisia	0.0016	0.0016	0.0015	0.0015	0.0015
Uganda	0.0015	0.0013	0.0012	0.0011	0.0009
Zambia	0.0035	0.0027	0.0019	0.0011	0.0003
Zimbabwe	0.0017	0.0014	0.0012	0.0009	0.0006
	0.1507	0.1227	0.0947	0.0667	0.0386

Asia

Country	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
Afghanistan, Islamic State of	0.0007	0.0008	0.0009	0.0010	0.0011
Bangladesh	0.0034	0.0038	0.0042	0.0047	0.0051
Bhutan	0.0019	0.0015	0.0010	0.0006	0.0002
Brunei Darussalam	0.0002	0.0002	0.0002	0.0003	0.0003
Cambodia	0.0016	0.0014	0.0011	0.0009	0.0006
China	0.0763	0.0887	0.1011	0.1135	0.1259
Fiji	0.0012	0.0010	0.0007	0.0005	0.0002
India	0.0351	0.0408	0.0465	0.0522	0.0580
Indonesia	0.0104	0.0114	0.0124	0.0134	0.0144
Kiribati	0.0035	0.0026	0.0018	0.0010	0.0001
Korea	0.0121	0.0137	0.0153	0.0169	0.0185
Lao, People's Dem. Republic	0.0015	0.0012	0.0009	0.0006	0.0003
Malaysia	0.0043	0.0044	0.0046	0.0047	0.0048
Maldives	0.0016	0.0012	0.0009	0.0005	0.0002
Marshall Islands	0.0020	0.0015	0.0010	0.0006	0.0001
Micronesia, Fed. States of	0.0030	0.0023	0.0016	0.0008	0.0001
Myanmar	0.0009	0.0011	0.0012	0.0013	0.0015
Nepal	0.0012	0.0011	0.0010	0.0009	0.0008
Pakistan	0.0046	0.0051	0.0055	0.0060	0.0065
Palau, Republic of	0.0064	0.0048	0.0032	0.0017	0.0001
Papua New Guinea	0.0015	0.0012	0.0010	0.0007	0.0004
Philippines	0.0048	0.0053	0.0059	0.0064	0.0069
Samoa	0.0029	0.0022	0.0015	0.0008	0.0001
Singapore	0.0041	0.0036	0.0031	0.0026	0.0021
Solomon Islands	0.0012	0.0009	0.0007	0.0004	0.0001
Sri Lanka	0.0016	0.0016	0.0015	0.0015	0.0015
Thailand	0.0065	0.0071	0.0078	0.0085	0.0091
Timor-Leste	0.0034	0.0026	0.0017	0.0009	0.0001
Tonga	0.0027	0.0020	0.0014	0.0008	0.0001
Vanuatu	0.0040	0.0030	0.0021	0.0011	0.0001
Vietnam	0.0030	0.0032	0.0034	0.0036	0.0038
	0.2076	0.2215	0.2354	0.2493	0.2631

Middle East

Country	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
Bahrain	0.0053	0.0041	0.0029	0.0016	0.0004
Egypt	0.0051	0.0052	0.0052	0.0052	0.0052
Iran	0.0065	0.0072	0.0079	0.0085	0.0092
Iraq	0.0001	0.0001	0.0001	0.0001	0.0001
Jordan	0.0046	0.0036	0.0026	0.0016	0.0006
Kuwait	0.0259	0.0196	0.0134	0.0071	0.0009
Lebanon	0.0023	0.0019	0.0014	0.0010	0.0005

Libya	0.0022	0.0019	0.0017	0.0014	0.0012
Malta	0.0023	0.0018	0.0013	0.0008	0.0003
Oman	0.0013	0.0012	0.0011	0.0009	0.0008
Qatar	0.0041	0.0032	0.0023	0.0014	0.0005
Saudi Arabia	0.0049	0.0051	0.0054	0.0056	0.0058
Syrian Arab Republic	0.0026	0.0023	0.0020	0.0017	0.0013
Turkey	0.0063	0.0071	0.0078	0.0086	0.0094
United Arab Emirates	0.0029	0.0027	0.0024	0.0022	0.0020
Yemen, Republic of	0.0063	0.0048	0.0034	0.0019	0.0004
	0.0827	0.0717	0.0606	0.0496	0.0385

Latin America and the Caribbean

Country	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
Antigua and Barbuda	0.0014	0.0011	0.0008	0.0005	0.0001
Argentina	0.0057	0.0065	0.0072	0.0079	0.0086
Bahamas, The	0.0013	0.0010	0.0007	0.0005	0.0002
Barbados	0.0009	0.0007	0.0006	0.0004	0.0002
Belize	0.0016	0.0012	0.0009	0.0005	0.0001
Bolivia	0.0008	0.0007	0.0007	0.0006	0.0005
Brazil	0.0162	0.0187	0.0213	0.0238	0.0264
Chile	0.0029	0.0030	0.0030	0.0031	0.0032
Colombia	0.0040	0.0045	0.0049	0.0054	0.0058
Costa Rica	0.0014	0.0013	0.0012	0.0010	0.0009
Dominica	0.0023	0.0017	0.0012	0.0007	0.0001
Dominican Republic	0.0023	0.0021	0.0018	0.0015	0.0012
Ecuador	0.0035	0.0029	0.0023	0.0017	0.0011
El Salvador	0.0014	0.0012	0.0010	0.0008	0.0007
Grenada	0.0014	0.0011	0.0008	0.0005	0.0001
Guatemala	0.0012	0.0012	0.0012	0.0011	0.0011
Guyana	0.0077	0.0058	0.0040	0.0021	0.0002
Haiti	0.0020	0.0016	0.0012	0.0008	0.0004
Honduras	0.0015	0.0013	0.0010	0.0007	0.0005
Jamaica	0.0028	0.0022	0.0015	0.0009	0.0003
Mexico	0.0115	0.0131	0.0148	0.0165	0.0182
Nicaragua	0.0043	0.0033	0.0023	0.0014	0.0004
Panama	0.0026	0.0020	0.0015	0.0010	0.0005
Paraguay	0.0018	0.0015	0.0012	0.0009	0.0006
Peru	0.0023	0.0025	0.0026	0.0027	0.0029
St. Kitts and Nevis	0.0012	0.0009	0.0006	0.0004	0.0001
St. Lucia	0.0008	0.0006	0.0005	0.0003	0.0001
St. Vincent and the Grenadines	0.0014	0.0011	0.0008	0.0004	0.0001
Suriname	0.0058	0.0044	0.0030	0.0016	0.0002
Trinidad and Tobago	0.0017	0.0014	0.0010	0.0007	0.0004
Uruguay	0.0012	0.0010	0.0009	0.0008	0.0006
Venezuela	0.0026	0.0025	0.0025	0.0025	0.0025
	0.0995	0.0942	0.0889	0.0836	0.0784

Transition Economies

Country	GDP(ppp) =.60 V=.40	GDP(ppp) =0.70 V=0.30	GDP(ppp) =0.80 V=.20	GDP(ppp) =0.90 V=0.10	GDP(ppp) =1 V=0
Albania	0.0093	0.0071	0.0049	0.0026	0.0004
Armenia	0.0015	0.0012	0.0009	0.0006	0.0003
Azerbaijan	0.0039	0.0031	0.0023	0.0015	0.0007
Belarus	0.0023	0.0020	0.0018	0.0015	0.0013
Bosnia-Herzegovina	0.0023	0.0018	0.0014	0.0009	0.0005
Bulgaria	0.0024	0.0021	0.0018	0.0016	0.0013
Croatia	0.0040	0.0033	0.0025	0.0018	0.0011
Czech Republic	0.0037	0.0037	0.0036	0.0036	0.0035
Estonia	0.0020	0.0016	0.0012	0.0009	0.0005
Georgia	0.0012	0.0010	0.0008	0.0006	0.0004
Hungary	0.0037	0.0035	0.0033	0.0031	0.0029
Kazakstan	0.0039	0.0035	0.0030	0.0025	0.0020
Kyrgyz Republic	0.0136	0.0103	0.0070	0.0036	0.0003
Latvia	0.0017	0.0015	0.0012	0.0009	0.0006
Lithuania	0.0018	0.0016	0.0013	0.0011	0.0009
Macedonia, FYR	0.0027	0.0021	0.0015	0.0010	0.0004
Moldova	0.0022	0.0017	0.0012	0.0007	0.0003
Mongolia	0.0019	0.0015	0.0011	0.0006	0.0002
Poland	0.0062	0.0068	0.0073	0.0079	0.0085

Romania	0.0027	0.0028	0.0029	0.0030	0.0031
Russia	0.0159	0.0183	0.0206	0.0230	0.0254
Serbia / Montenegro	0.0023	0.0021	0.0019	0.0018	0.0016
Slovak Republic	0.0029	0.0024	0.0019	0.0014	0.0008
Slovenia	0.0011	0.0009	0.0007	0.0005	0.0002
Tajikistan	0.0070	0.0054	0.0039	0.0023	0.0007
Turkmenistan	0.0063	0.0060	0.0058	0.0055	0.0053
Ukraine	0.0026	0.0022	0.0018	0.0014	0.0009
Uzbekistan	0.0070	0.0054	0.0039	0.0024	0.0008
	0.1183	0.1050	0.0916	0.0783	0.0649