

**Regression Number:** 32  
**Regression Name:** Members with Quota Shares of Equal to or Less Than 1.0 Percent  
 Re-estimated Bretton Woods Formula with Normal Net Capital Flows as an Additional Variable

**Quota Review:** Eleventh

$$Q = ( 0.00595 Y - 0.01468 R + 0.00011 P + 0.36316 VC + 0.03787 NCF ) \times ( 1 + C/Y )$$

(6.36)      (-3.19)      (0.03)      (11.74)      (3.01)

where Q is the actual quota; Y is GDP in a recent year (1994); R is average monthly reserves in a recent year (1994); P and C are the annual average current payments and receipts, respectively, over a recent five year period (1990-94); VC is the variability of current receipts, defined as one standard deviation from a five-year moving average over a recent 13-year period (1982-1994); NCF is normal capital flow proxied by a four-year moving average of actual net private capital flows (inclusive of errors & omissions); t-ratios are given in parentheses.

Sample size	163	R-squared	0.83
Description of sample	Members with actual quota shares equal to or less than 1 percent	Adjusted R-squared	0.83
		S.E. of regression	220.48
Estimation method	Nonlinear Least Squares	SSR (from estimation)	7,680,296

**Relative Contributions of Variables in the Estimated Formula**  
 (In percent)

Y	31.9
R	-8.2
P	0.2
VC	41.9
NCF	8.1
C/Y	<u>26.2</u>
Total	100.0

**Table I.32. Results of Regression Equation No. 32**  
(Countries ranked by actual quota under the Eleventh General Review)

	Actual	Estimated	Adjusted	Actual	Adjusted	'Residuals'		Memo Item:	
	Quota	Quota	Estimated	Quota	Quota	Columns		Calculated Quotas Based on	
	Amount	Amount 1/	Quota	Shares	Shares	(1)-(3)	(4)-(5)	Existing 5-Formula System	Shares
	(In millions of SDRs)			(In percent)				(in mill SDRs)	(in percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Argentina	2,117.1	1,922.3	2,329.2	0.998	1.099	-212.09	-0.10	3,487.7	0.639
Indonesia	2,079.3	1,767.0	2,141.0	0.981	1.010	-61.72	-0.03	4,318.0	0.792
Austria	1,872.3	1,926.8	2,334.7	0.883	1.101	-462.40	-0.22	6,972.5	1.278
South Africa	1,868.5	824.0	998.5	0.881	0.471	870.02	0.41	2,429.2	0.445
Nigeria	1,753.2	1,191.8	1,444.1	0.827	0.681	309.09	0.15	2,246.8	0.412
Norway	1,671.7	1,476.2	1,788.7	0.788	0.844	-117.02	-0.06	5,209.6	0.955
Denmark	1,642.8	1,310.3	1,587.7	0.775	0.749	55.10	0.03	5,450.0	0.999
Korea	1,633.6	3,027.1	3,667.9	0.770	1.730	-2,034.27	-0.96	9,049.7	1.659
Iran	1,497.2	1,671.5	2,025.3	0.706	0.955	-528.10	-0.25	3,095.9	0.568
Malaysia	1,486.6	1,339.6	1,623.2	0.701	0.766	-136.58	-0.06	5,608.4	1.028
Kuwait	1,381.1	1,993.4	2,415.4	0.651	1.139	-1,034.34	-0.49	2,832.9	0.519
Ukraine	1,372.0	1,104.5	1,338.4	0.647	0.631	33.65	0.02	2,172.1	0.398
Poland	1,369.0	1,063.7	1,288.9	0.646	0.608	80.11	0.04	2,657.1	0.487
Finland	1,263.8	1,427.0	1,729.1	0.596	0.816	-465.33	-0.22	3,463.0	0.635
Algeria	1,254.7	936.4	1,134.6	0.592	0.535	120.07	0.06	1,811.0	0.332
Iraq	1,188.4	1,115.3	1,351.4	0.560	0.637	-163.00	-0.08	1,810.1	0.332
Libya	1,123.7	906.1	1,097.9	0.530	0.518	25.77	0.01	1,720.9	0.315
Thailand	1,081.9	1,257.6	1,523.8	0.510	0.719	-441.91	-0.21	4,701.3	0.862
Hungary	1,038.4	620.6	752.0	0.490	0.355	286.41	0.14	1,644.2	0.301
Pakistan	1,033.7	489.5	593.1	0.488	0.280	440.60	0.21	1,131.9	0.208
Romania	1,030.2	689.4	835.4	0.486	0.394	194.80	0.09	1,243.8	0.228
Turkey	964.0	1,109.7	1,344.6	0.455	0.634	-380.60	-0.18	2,905.9	0.533
Egypt	943.7	619.8	751.1	0.445	0.354	192.65	0.09	2,054.5	0.377
Israel	928.2	617.7	748.5	0.438	0.353	179.71	0.09	2,101.2	0.385
New Zealand	894.6	470.6	570.2	0.422	0.269	324.43	0.15	1,429.0	0.262
Philippines	879.9	659.9	799.6	0.415	0.377	80.27	0.04	1,852.2	0.340
Portugal	867.4	653.2	791.5	0.409	0.373	75.87	0.04	3,046.1	0.558
Singapore	862.5	1,025.6	1,242.7	0.407	0.586	-380.23	-0.18	8,339.7	1.529
Chile	856.1	373.5	452.6	0.404	0.213	403.52	0.19	1,398.3	0.256
Ireland	838.4	620.1	751.3	0.395	0.354	87.06	0.04	3,320.4	0.609
Greece	823.0	729.6	884.1	0.388	0.417	-61.05	-0.03	2,091.0	0.383
Czech Republic	819.3	732.5	887.5	0.386	0.419	-68.21	-0.03	1,736.0	0.318
Colombia	774.0	432.7	524.3	0.365	0.247	249.73	0.12	1,324.3	0.243
Bulgaria	640.2	597.3	723.8	0.302	0.341	-83.57	-0.04	1,046.6	0.192
Peru	638.4	407.3	493.5	0.301	0.233	144.86	0.07	858.3	0.157

**Table J.32. Results of Regression Equation No. 32**  
(Countries ranked by actual quota under the Eleventh General Review)

	Actual	Estimated	Adjusted	Actual	Adjusted	'Residuals'		<i>Memo Item:</i>	
	Quota	Quota	Estimated	Quota	Estimated	Columns		Calculated Quotas Based on	
	Amount	Amount 1/	Quota	Shares	Quota	(1)-(3)	(4)-(5)	Existing 5-Formula System	Shares
	(In millions of SDRs)			(In percent)				(in mill SDRs)	(In percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
United Arab Emirates	611.7	1,051.6	1,274.2	0.288	0.601	-662.50	-0.31	2,176.5	0.399
Morocco	588.2	262.0	317.5	0.277	0.150	270.72	0.13	919.4	0.169
Bangladesh	533.3	173.1	209.8	0.252	0.099	323.53	0.15	484.4	0.089
Congo, Dem. Republic of	533.0	144.1	174.7	0.251	0.082	358.35	0.17	301.1	0.055
Zambia	489.1	80.3	97.3	0.231	0.046	391.79	0.19	183.3	0.034
FRY (Serbia/Montenegro)	467.7	632.9	766.9	0.221	0.362	-299.19	-0.14	1,076.3	0.197
Sri Lanka	413.4	154.8	187.5	0.195	0.088	225.87	0.11	426.6	0.078
Belarus	386.4	379.5	459.8	0.182	0.217	-73.44	-0.04	648.9	0.119
Ghana	369.0	49.9	60.5	0.174	0.029	308.54	0.15	155.5	0.029
Kazakstan	365.7	452.6	548.4	0.172	0.259	-182.67	-0.09	1,032.1	0.189
Croatia	365.1	395.1	478.7	0.172	0.226	-113.59	-0.05	860.9	0.158
Slovak Republic	357.5	330.9	400.9	0.169	0.189	-43.40	-0.02	748.1	0.137
Zimbabwe	353.4	95.1	115.3	0.167	0.054	238.13	0.11	234.1	0.043
Trinidad and Tobago	335.6	162.0	196.3	0.158	0.093	139.34	0.07	320.4	0.059
Vietnam	329.1	133.8	162.2	0.155	0.076	166.94	0.08	345.7	0.063
Cote d'Ivoire	325.2	202.3	245.1	0.153	0.116	80.10	0.04	379.0	0.069
Sudan	315.1	149.7	181.4	0.149	0.086	133.74	0.06	198.5	0.036
Uruguay	306.5	120.2	145.7	0.145	0.069	160.80	0.08	302.7	0.055
Ecuador	302.3	207.4	251.3	0.143	0.119	51.02	0.02	517.2	0.095
Syrian Arab Republic	293.6	413.0	500.4	0.138	0.236	-206.85	-0.10	723.7	0.133
Tunisia	286.5	226.8	274.8	0.135	0.130	11.71	0.01	621.4	0.114
Angola	286.3	311.8	377.7	0.135	0.178	-91.45	-0.04	516.1	0.095
Luxembourg	279.1	465.0	563.5	0.132	0.266	-284.37	-0.13	1,587.8	0.291
Uzbekistan	275.6	205.3	248.8	0.130	0.117	26.85	0.01	495.4	0.091
Jamaica	273.5	88.7	107.5	0.129	0.051	166.02	0.08	280.5	0.051
Kenya	271.4	96.1	116.4	0.128	0.055	155.00	0.07	273.7	0.050
Qatar	263.8	264.0	319.9	0.124	0.151	-56.13	-0.03	509.2	0.093
Myanmar	258.4	359.1	435.1	0.122	0.205	-176.71	-0.08	628.4	0.115
Yemen, Republic of	243.5	249.2	301.9	0.115	0.142	-58.42	-0.03	421.6	0.077
Slovenia	231.7	304.9	369.4	0.109	0.174	-137.71	-0.07	776.9	0.142
Dominican Republic	218.9	147.2	178.4	0.103	0.084	40.48	0.02	370.0	0.068
Brunei Darussalam	215.2	388.2	470.4	0.101	0.222	-255.20	-0.12	553.7	0.102
Guatemala	210.2	101.6	123.1	0.099	0.058	87.05	0.04	259.9	0.048
Panama	206.6	198.0	239.9	0.097	0.113	-33.27	-0.02	372.0	0.068
Lebanon	203.0	76.6	92.8	0.096	0.044	110.23	0.05	436.0	0.080

**Table J.32. Results of Regression Equation No. 32**  
(Countries ranked by actual quota under the Eleventh General Review)

	Actual	Estimated	Adjusted	Actual	Adjusted	'Residuals'		<i>Memo Item:</i>	
	Quota	Quota	Estimated	Quota	Estimated	Columns		Calculated Quotas Based on	
	Amount	Amount 1/ (In millions of SDRs)	Quota Amount 2/ (In millions of SDRs)	Shares (In percent)	Quota Shares (In percent)	(1)-(3)	(4)-(5)	Existing S-Formula System Amount	Shares (In percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Tanzania	198.9	88.5	107.3	0.094	0.051	91.63	0.04	142.8	0.026
Oman	194.0	401.1	486.1	0.091	0.229	-292.07	-0.14	833.6	0.153
Cameroon	185.7	156.4	189.5	0.088	0.089	-3.77	0.00	285.3	0.052
Uganda	180.5	48.3	58.5	0.085	0.028	122.03	0.06	86.5	0.016
Bolivia	171.5	75.6	91.6	0.081	0.043	79.92	0.04	155.4	0.028
El Salvador	171.3	65.4	79.2	0.081	0.037	92.08	0.04	192.5	0.035
Jordan	170.5	159.2	192.9	0.080	0.091	-22.39	-0.01	434.1	0.080
Bosnia-Herzegovina	169.1	137.8	167.0	0.080	0.079	2.13	0.00	392.5	0.072
Costa Rica	164.1	87.5	106.0	0.077	0.050	58.10	0.03	282.4	0.052
Afghanistan, Islamic State of	161.9	21.8	26.5	0.076	0.012	135.45	0.06	54.2	0.010
Senegal	161.8	83.5	101.2	0.076	0.048	60.65	0.03	158.8	0.029
Azerbaijan	160.9	147.9	179.3	0.076	0.085	-18.37	-0.01	251.2	0.046
Gabon	154.3	199.0	241.1	0.073	0.114	-86.84	-0.04	383.3	0.070
Georgia	150.3	47.1	57.1	0.071	0.027	93.18	0.04	108.4	0.020
Lithuania	144.2	159.8	193.6	0.068	0.091	-49.37	-0.02	326.3	0.060
Cyprus	139.6	103.7	125.7	0.066	0.059	13.89	0.01	330.5	0.061
Namibia	136.5	66.7	80.8	0.064	0.038	55.71	0.03	190.9	0.035
Bahrain	135.0	232.3	281.5	0.064	0.133	-146.51	-0.07	589.0	0.108
Ethiopia	133.7	60.6	73.5	0.063	0.035	60.24	0.03	131.9	0.024
Papua New Guinea	131.6	70.8	85.8	0.062	0.040	45.77	0.02	232.4	0.043
Bahamas, The	130.3	69.5	84.2	0.061	0.040	46.08	0.02	190.5	0.035
Nicaragua	130.0	61.4	74.5	0.061	0.035	55.55	0.03	85.1	0.016
Honduras	129.5	59.5	72.1	0.061	0.034	57.40	0.03	138.7	0.025
Liberia	129.2	14.8	17.9	0.061	0.008	111.26	0.05	33.8	0.006
Latvia	126.8	110.9	134.4	0.060	0.063	-7.62	0.00	253.1	0.046
Moldova	123.2	88.1	106.8	0.058	0.050	16.45	0.01	163.5	0.030
Madagascar	122.2	41.4	50.1	0.058	0.024	72.06	0.03	75.4	0.014
Iceland	117.6	60.7	73.5	0.055	0.035	44.06	0.02	197.3	0.036
Mozambique	113.6	38.6	46.8	0.054	0.022	66.83	0.03	76.9	0.014
Guinea	107.1	45.5	55.1	0.051	0.026	51.97	0.03	104.8	0.019
Sierra Leone	103.7	13.9	16.8	0.049	0.008	86.90	0.04	27.8	0.005
Malta	102.0	41.1	49.8	0.048	0.023	52.20	0.03	315.3	0.058
Mauritius	101.6	43.4	52.6	0.048	0.025	48.99	0.02	199.2	0.037
Paraguay	99.9	83.7	101.5	0.047	0.048	-1.56	0.00	197.0	0.036
Mali	93.3	33.9	41.0	0.044	0.019	52.26	0.03	69.8	0.013

**Table I.32. Results of Regression Equation No. 32**  
(Countries ranked by actual quota under the Eleventh General Review)

	Actual	Estimated	Adjusted	Actual	Adjusted	'Residuals'		<i>Memo Item:</i>	
	Quota	Quota	Estimated	Quota	Quota	Columns		Calculated Quotas Based on	
	Amount	Amount 1/	Quota	Shares	Shares	(1)-(3)	(4)-(5)	Existing 5-Formula System	Shares
	(In millions of SDRs)			(In percent)				(in mill SDRs)	(In percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Suriname	92.1	55.9	67.8	0.043	0.032	24.33	0.01	97.8	0.018
Armenia	92.0	51.7	62.7	0.043	0.030	29.33	0.01	101.8	0.019
Guyana	90.9	24.2	29.4	0.043	0.014	61.54	0.03	61.1	0.011
Kyrgyz Republic	88.8	77.8	94.3	0.042	0.044	-5.47	0.00	143.3	0.026
Cambodia	87.5	21.2	25.7	0.041	0.012	61.83	0.03	34.9	0.006
Tajikistan	87.0	117.6	142.5	0.041	0.067	-55.55	-0.03	225.4	0.041
Congo, Republic of	84.6	151.6	183.7	0.040	0.087	-99.14	-0.05	228.0	0.042
Haiti	81.9	22.4	27.1	0.039	0.013	54.77	0.03	42.8	0.008
Somalia	81.7	4.4	5.3	0.039	0.003	76.38	0.04	17.3	0.003
Rwanda	80.1	14.4	17.5	0.038	0.008	62.63	0.03	31.4	0.006
Burundi	77.0	12.1	14.6	0.036	0.007	62.36	0.03	30.5	0.006
Turkmenistan	75.2	123.6	149.8	0.035	0.071	-74.58	-0.04	272.1	0.050
Togo	73.4	20.0	24.2	0.035	0.011	49.19	0.02	47.4	0.009
Nepal	71.3	39.4	47.7	0.034	0.023	23.57	0.01	100.5	0.018
Fiji	70.3	43.6	52.8	0.033	0.025	17.48	0.01	109.7	0.020
Malawi	69.4	40.8	49.4	0.033	0.023	19.95	0.01	74.3	0.014
Macedonia, FYR	68.9	52.3	63.4	0.032	0.030	5.47	0.00	144.4	0.026
Barbados	67.5	48.3	58.5	0.032	0.028	8.95	0.00	120.1	0.022
Niger	65.8	32.0	38.8	0.031	0.018	27.01	0.01	67.3	0.012
Estonia	65.2	73.7	89.3	0.031	0.042	-24.11	-0.01	167.1	0.031
Mauritania	64.4	21.3	25.8	0.030	0.012	38.59	0.02	52.9	0.010
Botswana	63.0	29.0	35.1	0.030	0.017	27.92	0.01	358.4	0.066
Benin	61.9	33.1	40.1	0.029	0.019	21.83	0.01	73.3	0.013
Burkina Faso	60.2	22.7	27.5	0.028	0.013	32.74	0.02	64.3	0.012
Chad	56.0	17.7	21.5	0.026	0.010	34.49	0.02	42.2	0.008
Central African Republic	55.7	13.9	16.9	0.026	0.008	38.84	0.02	35.6	0.007
Lao, People's Dem. Republi	52.9	16.8	20.4	0.025	0.010	32.53	0.02	34.8	0.006
Mongolia	51.1	42.8	51.9	0.024	0.024	-0.78	0.00	85.8	0.016
Swaziland	50.7	25.1	30.5	0.024	0.014	20.23	0.01	108.7	0.020
Albania	48.7	47.1	57.0	0.023	0.027	-8.32	0.00	86.4	0.016
Lesotho	34.9	23.3	28.3	0.016	0.013	6.63	0.00	93.8	0.017
Equatorial Guinea	32.6	3.4	4.1	0.015	0.002	28.45	0.01	8.2	0.001
Gambia, The	31.1	10.6	12.8	0.015	0.006	18.30	0.01	29.2	0.005
Belize	18.8	18.1	21.9	0.009	0.010	-3.13	0.00	39.9	0.007
San Marino	17.0	29.0	35.1	0.008	0.017	-18.10	-0.01	90.8	0.017

**Table I.32. Results of Regression Equation No. 32**  
(Countries ranked by actual quota under the Eleventh General Review)

	Actual	Estimated	Adjusted	Actual	Adjusted	Residuals'		Memo Item:	
	Quota	Quota	Estimated	Quota	Estimated	Columns		Calculated Quotas Based on	
	Amount	Amount 1/	Quota	Shares	Quota	(1)-(3)	(4)-(5)	Existing 5-Formula System	Shares
	(In millions of SDRs)			(In percent)				(in mill SDRs)	(In percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Vanuatu	17.0	7.3	8.8	0.008	0.004	8.22	0.00	16.2	0.003
Djibouti	15.9	11.1	13.5	0.007	0.006	2.42	0.00	29.1	0.005
Eritrea	15.9	10.5	12.7	0.007	0.006	3.19	0.00	30.6	0.006
St. Lucia	15.3	10.4	12.5	0.007	0.006	2.75	0.00	33.3	0.006
Guinea-Bissau	14.2	8.7	10.6	0.007	0.005	3.65	0.00	9.9	0.002
Antigua and Barbuda	13.5	12.6	15.2	0.006	0.007	-1.73	0.00	51.9	0.010
Grenada	11.7	8.1	9.8	0.006	0.005	1.91	0.00	16.6	0.003
Samoa	11.6	4.5	5.5	0.005	0.003	6.10	0.00	11.6	0.002
Solomon Islands	10.4	7.4	9.0	0.005	0.004	1.42	0.00	19.9	0.004
Cape Verde	9.6	5.4	6.5	0.005	0.003	3.11	0.00	15.5	0.003
Comoros	8.9	3.8	4.6	0.004	0.002	4.33	0.00	10.4	0.002
St. Kitts and Nevis	8.9	3.9	4.8	0.004	0.002	4.14	0.00	12.8	0.002
Seychelles	8.8	8.8	10.6	0.004	0.005	-1.85	0.00	24.6	0.005
St. Vincent and the Grenadin	8.3	7.8	9.4	0.004	0.004	-1.14	0.00	16.2	0.003
Dominica	8.2	4.2	5.1	0.004	0.002	3.10	0.00	11.2	0.002
Maldives	8.2	7.2	8.8	0.004	0.004	-0.58	0.00	23.9	0.004
Sao Tome and Principe	7.4	0.8	1.0	0.003	0.000	6.41	0.00	3.2	0.001
Tonga	6.9	3.2	3.9	0.003	0.002	3.04	0.00	10.0	0.002
Bhutan	6.3	3.1	3.7	0.003	0.002	2.57	0.00	14.4	0.003
Kiribati	5.6	-3.6	-4.3	0.003	-0.002	9.90	0.01	13.6	0.002
Micronesia, Fed. States of	5.1	2.2	2.6	0.002	0.001	2.49	0.00	13.1	0.002
Marshall Islands	3.5	2.3	2.8	0.002	0.001	0.66	0.00	7.8	0.001
Palau, Republic of	3.1	1.9	2.3	0.001	0.001	0.83	0.00	5.7	0.001
Total	61,692.8	50,914.4	61,692.8	29.1	29.1	0.0	0.0	138,110.3	25.3
Memo: Sum of squared residuals						10,140,633.2	2.26		

1/ Based on the "estimate" generated by the regression equation.

2/ Based on the estimated quotas shown in Col. (2) but adjusted so that their total equals the total of actual quotas.