

**Regression Number:** 7  
**Regression Name:** Re-estimated Bretton Woods Formula for Members with Actual Quota Shares Equal to or Less Than 1 Percent

**Quota Review:** Eleventh

$$Q = (0.00720 Y - 0.01035 R - 0.00294 P + 0.38836 VC) \cdot x (1 + C/Y)$$

(8.36)      (-2.31)      (-0.83)      (12.7)

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 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). t-ratios are given in parentheses.

Sample size	163	R-squared	0.82
Description of sample	Members with actual quota shares equal to or less than 1 percent	Adjusted R-squared	0.82
Estimation method	Nonlinear Least Squares	S.E. of Regression	226.0
		SSR (from estimation)	8,121,191

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

Y	39.4
R	-5.9
P	-5.3
VC	45.7
C/Y	<u>26.2</u>
Total	100.0

**Table I.7. Results of Regression Equation No. 7**  
(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	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	1,838.6	2,272.9	0.998	1.072	-155.84	-0.07	3,487.7	0.64
Indonesia	2,079.3	1,787.4	2,209.7	0.981	1.042	-130.35	-0.06	4,318.0	0.79
Austria	1,872.3	1,961.4	2,424.8	0.883	1.144	-552.49	-0.26	6,972.5	1.28
South Africa	1,868.5	900.6	1,113.4	0.881	0.525	755.12	0.36	2,429.2	0.45
Nigeria	1,753.2	1,362.2	1,684.1	0.827	0.794	69.13	0.03	2,246.8	0.41
Norway	1,671.7	1,708.5	2,112.2	0.788	0.996	-440.46	-0.21	5,209.6	0.96
Denmark	1,642.8	1,356.5	1,677.0	0.775	0.791	-34.24	-0.02	5,450.0	1.00
Korea	1,633.6	3,169.0	3,917.8	0.770	1.848	-2,284.19	-1.08	9,049.7	1.66
Iran	1,497.2	1,558.9	1,927.2	0.706	0.909	-430.03	-0.20	3,095.9	0.57
Malaysia	1,486.6	1,197.0	1,479.8	0.701	0.698	6.77	0.00	5,608.4	1.03
Kuwait	1,381.1	1,823.8	2,254.8	0.651	1.063	-873.65	-0.41	2,832.9	0.52
Ukraine	1,372.0	1,118.2	1,382.4	0.647	0.652	-10.44	0.00	2,172.1	0.40
Poland	1,369.0	963.6	1,191.3	0.646	0.562	177.71	0.08	2,657.1	0.49
Finland	1,263.8	1,119.2	1,383.6	0.596	0.653	-119.77	-0.06	3,463.0	0.63
Algeria	1,254.7	949.0	1,173.2	0.592	0.553	81.51	0.04	1,811.0	0.33
Iraq	1,188.4	1,181.7	1,460.9	0.560	0.689	-272.46	-0.13	1,810.1	0.33
Libya	1,123.7	938.3	1,160.0	0.530	0.547	-36.29	-0.02	1,720.9	0.32
Thailand	1,081.9	1,033.1	1,277.2	0.510	0.602	-195.25	-0.09	4,701.3	0.86
Hungary	1,038.4	533.7	659.8	0.490	0.311	378.64	0.18	1,644.2	0.30
Pakistan	1,033.7	406.5	502.5	0.488	0.237	531.22	0.25	1,131.9	0.21
Romania	1,030.2	694.1	858.1	0.486	0.405	172.08	0.08	1,243.8	0.23
Turkey	964.0	1,135.9	1,404.3	0.455	0.662	-440.28	-0.21	2,905.9	0.53
Egypt	943.7	641.9	793.6	0.445	0.374	150.15	0.07	2,054.5	0.38
Israel	928.2	547.7	677.1	0.438	0.319	251.11	0.12	2,101.2	0.39
New Zealand	894.6	483.9	598.2	0.422	0.282	296.37	0.14	1,429.0	0.26
Philippines	879.9	564.1	697.3	0.415	0.329	182.56	0.09	1,852.2	0.34
Portugal	867.4	735.5	909.3	0.409	0.429	-41.87	-0.02	3,046.1	0.56
Singapore	862.5	1,128.5	1,395.1	0.407	0.658	-532.60	-0.25	8,339.7	1.53
Chile	856.1	350.8	433.7	0.404	0.205	422.39	0.20	1,398.3	0.26
Ireland	838.4	634.4	784.3	0.395	0.370	54.13	0.03	3,320.4	0.61
Greece	823.0	647.5	800.5	0.388	0.378	22.53	0.01	2,091.0	0.38
Czech Republic	819.3	720.3	890.5	0.386	0.420	-71.16	-0.03	1,736.1	0.32
Colombia	774.0	478.8	591.9	0.365	0.279	182.06	0.09	1,324.3	0.24
Bulgaria	640.2	582.0	719.6	0.302	0.339	-79.35	-0.04	1,046.6	0.19
Peru	638.4	351.1	434.0	0.301	0.205	204.37	0.10	858.3	0.16
United Arab Emirates	611.7	1,068.8	1,321.3	0.288	0.623	-709.59	-0.33	2,176.5	0.40
Morocco	588.2	250.1	309.2	0.277	0.146	279.02	0.13	919.4	0.17
Bangladesh	533.3	169.7	209.8	0.252	0.099	323.48	0.15	484.4	0.09
Congo, Dem. Republic of	533.0	144.6	178.7	0.251	0.084	354.28	0.17	301.1	0.06
Zambia	489.1	76.1	94.1	0.231	0.044	394.99	0.19	183.3	0.03

**Table I.7. Results of Regression Equation No. 7**  
(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	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)
FRY (Serbia/Montenegro)	467.7	684.3	846.0	0.221	0.399	-378.27	-0.18	1,076.3	0.20
Sri Lanka	413.4	121.2	149.8	0.195	0.071	263.58	0.12	426.6	0.08
Belarus	386.4	379.9	469.7	0.182	0.222	-83.30	-0.04	648.9	0.12
Ghana	369.0	37.6	46.5	0.174	0.022	322.51	0.15	155.5	0.03
Kazakhstan	365.7	463.2	572.6	0.172	0.270	-206.92	-0.10	1,032.1	0.19
Croatia	365.1	413.6	511.3	0.172	0.241	-146.16	-0.07	861.0	0.16
Slovak Republic	357.5	332.7	411.3	0.169	0.194	-53.77	-0.03	748.1	0.14
Zimbabwe	353.4	72.2	89.3	0.167	0.042	264.09	0.12	234.1	0.04
Trinidad and Tobago	335.6	179.6	222.1	0.158	0.105	113.54	0.05	320.4	0.06
Vietnam	329.1	127.4	157.5	0.155	0.074	171.61	0.08	345.7	0.06
Cote d'Ivoire	325.2	134.4	166.2	0.153	0.078	159.00	0.07	379.0	0.07
Sudan	315.1	126.6	156.5	0.149	0.074	158.62	0.07	198.5	0.04
Uruguay	306.5	121.9	150.6	0.145	0.071	155.87	0.07	302.7	0.06
Ecuador	302.3	221.5	273.8	0.143	0.129	28.53	0.01	517.2	0.09
Syrian Arab Republic	293.6	448.9	555.0	0.138	0.262	-261.41	-0.12	723.7	0.13
Tunisia	286.5	181.0	223.7	0.135	0.106	62.77	0.03	621.4	0.11
Angola	286.3	264.1	326.5	0.135	0.154	-40.20	-0.02	516.1	0.09
Luxembourg	279.1	420.5	519.9	0.132	0.245	-240.79	-0.11	1,587.8	0.29
Uzbekistan	275.6	217.9	269.4	0.130	0.127	6.20	0.00	495.4	0.09
Jamaica	273.5	82.8	102.4	0.129	0.048	171.13	0.08	280.5	0.05
Kenya	271.4	90.2	111.5	0.128	0.053	159.94	0.08	273.7	0.05
Qatar	263.8	261.4	323.2	0.124	0.152	-59.40	-0.03	509.2	0.09
Myanmar	258.4	421.2	520.7	0.122	0.246	-262.29	-0.12	628.4	0.12
Yemen, Republic of	243.5	257.8	318.7	0.115	0.150	-75.22	-0.04	421.6	0.08
Slovenia	231.7	327.2	404.5	0.109	0.191	-172.77	-0.08	776.9	0.14
Dominican Republic	218.9	143.4	177.2	0.103	0.084	41.66	0.02	370.0	0.07
Brunei Darussalam	215.2	396.5	490.2	0.101	0.231	-275.00	-0.13	553.7	0.10
Guatemala	210.2	93.0	114.9	0.099	0.054	95.29	0.04	259.9	0.05
Panama	206.6	147.5	182.3	0.097	0.086	24.32	0.01	372.0	0.07
Lebanon	203.0	91.0	112.5	0.096	0.053	90.51	0.04	436.0	0.08
Tanzania	198.9	45.7	56.5	0.094	0.027	142.39	0.07	142.8	0.03
Oman	194.0	401.9	496.8	0.091	0.234	-302.83	-0.14	833.6	0.15
Cameroon	185.7	122.5	151.5	0.088	0.071	34.24	0.02	285.3	0.05
Uganda	180.5	40.7	50.4	0.085	0.024	130.13	0.06	86.5	0.02
Bolivia	171.5	64.9	80.2	0.081	0.038	91.32	0.04	155.4	0.03

**Table.L7. Results of Regression Equation No. 7**  
(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	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)
El Salvador	171.3	66.8	82.6	0.081	0.039	88.72	0.04	192.5	0.04
Jordan	170.5	119.3	147.5	0.080	0.070	23.00	0.01	434.1	0.08
Bosnia-Herzegovina	169.1	133.7	165.3	0.080	0.078	3.84	0.00	392.6	0.07
Costa Rica	164.1	80.6	99.6	0.077	0.047	64.50	0.03	282.4	0.05
Afghanistan, Islamic State of	161.9	23.6	29.2	0.076	0.014	132.68	0.06	54.2	0.01
Senegal	161.8	52.8	65.2	0.076	0.031	96.59	0.05	158.8	0.03
Azerbaijan	160.9	151.3	187.0	0.076	0.088	-26.11	-0.01	251.2	0.05
Gabon	154.3	202.3	250.1	0.073	0.118	-95.83	-0.05	383.3	0.07
Georgia	150.3	48.0	59.3	0.071	0.028	91.01	0.04	108.4	0.02
Lithuania	144.2	164.6	203.4	0.068	0.096	-59.23	-0.03	326.3	0.06
Cyprus	139.6	89.4	110.5	0.066	0.052	29.11	0.01	330.5	0.06
Namibia	136.5	66.3	82.0	0.064	0.039	54.50	0.03	190.9	0.03
Bahrain	135.0	231.7	286.5	0.064	0.135	-151.50	-0.07	589.0	0.11
Ethiopia	133.7	54.3	67.2	0.063	0.032	66.55	0.03	131.9	0.02
Papua New Guinea	131.6	88.4	109.3	0.062	0.052	22.26	0.01	232.5	0.04
Bahamas, The	130.3	70.8	87.5	0.061	0.041	42.76	0.02	190.5	0.03
Nicaragua	130.0	25.0	31.0	0.061	0.015	99.05	0.05	85.1	0.02
Honduras	129.5	44.5	55.1	0.061	0.026	74.44	0.04	138.7	0.03
Liberia	129.2	13.8	17.1	0.061	0.008	112.10	0.05	33.8	0.01
Latvia	126.8	122.3	151.2	0.060	0.071	-24.37	-0.01	253.1	0.05
Moldova	123.2	86.6	107.1	0.058	0.051	16.12	0.01	163.5	0.03
Madagascar	122.2	27.0	33.4	0.058	0.016	88.82	0.04	75.4	0.01
Iceland	117.6	57.7	71.3	0.055	0.034	46.30	0.02	197.3	0.04
Mozambique	113.6	12.1	14.9	0.054	0.007	98.67	0.05	76.9	0.01
Guinea	107.1	39.3	48.6	0.051	0.023	58.53	0.03	104.8	0.02
Sierra Leone	103.7	11.9	14.8	0.049	0.007	88.95	0.04	27.8	0.01
Malta	102.0	35.6	44.0	0.048	0.021	58.01	0.03	315.3	0.06
Mauritius	101.6	41.5	51.3	0.048	0.024	50.31	0.02	199.2	0.04
Paraguay	99.9	75.7	93.6	0.047	0.044	6.28	0.00	197.0	0.04
Mali	93.3	16.4	20.3	0.044	0.010	73.03	0.03	69.8	0.01
Suriname	92.1	57.6	71.2	0.043	0.034	20.90	0.01	97.8	0.02
Armenia	92.0	49.8	61.6	0.043	0.029	30.42	0.01	101.8	0.02
Guyana	90.9	15.8	19.6	0.043	0.009	71.31	0.03	61.1	0.01
Kyrgyz Republic	88.8	74.8	92.4	0.042	0.044	-3.63	0.00	143.3	0.03
Cambodia	87.5	19.9	24.6	0.041	0.012	62.90	0.03	35.0	0.01

**Table I.7. Results of Regression Equation No. 7**  
(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	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)
Tajikistan	87.0	117.0	144.7	0.041	0.068	-57.66	-0.03	225.4	0.04
Congo, Republic of	84.6	120.0	148.3	0.040	0.070	-63.73	-0.03	228.0	0.04
Haiti	81.9	22.2	27.4	0.039	0.013	54.50	0.03	42.8	0.01
Somalia	81.7	4.4	5.4	0.039	0.003	76.29	0.04	17.3	0.00
Rwanda	80.1	10.3	12.8	0.038	0.006	67.34	0.03	31.4	0.01
Burundi	77.0	9.7	12.0	0.036	0.006	65.03	0.03	30.5	0.01
Turkmenistan	75.2	134.5	166.2	0.035	0.078	-91.04	-0.04	272.1	0.05
Togo	73.4	15.0	18.6	0.035	0.009	54.83	0.03	47.4	0.01
Nepal	71.3	26.0	32.1	0.034	0.015	39.19	0.02	100.5	0.02
Fiji	70.3	38.4	47.5	0.033	0.022	22.85	0.01	109.8	0.02
Malawi	69.4	27.8	34.4	0.033	0.016	35.01	0.02	74.3	0.01
Macedonia, FYR	68.9	52.6	65.0	0.032	0.031	3.87	0.00	144.4	0.03
Barbados	67.5	54.2	67.0	0.032	0.032	0.49	0.00	120.2	0.02
Niger	65.8	25.4	31.4	0.031	0.015	34.41	0.02	67.4	0.01
Estonia	65.2	76.0	94.0	0.031	0.044	-28.78	-0.01	167.1	0.03
Mauritania	64.4	17.0	21.0	0.030	0.010	43.36	0.02	52.9	0.01
Botswana	63.0	47.9	59.2	0.030	0.028	3.77	0.00	358.4	0.07
Benin	61.9	28.4	35.1	0.029	0.017	26.84	0.01	73.3	0.01
Burkina Faso	60.2	17.9	22.1	0.028	0.010	38.12	0.02	64.3	0.01
Chad	56.0	13.0	16.1	0.026	0.008	39.91	0.02	42.2	0.01
Central African Republic	55.7	10.1	12.5	0.026	0.006	43.19	0.02	35.6	0.01
Lao, People's Dem. Republi	52.9	13.9	17.2	0.025	0.008	35.66	0.02	34.8	0.01
Mongolia	51.1	43.5	53.8	0.024	0.025	-2.73	0.00	85.8	0.02
Swaziland	50.7	26.7	33.1	0.024	0.016	17.65	0.01	108.7	0.02
Albania	48.7	43.9	54.3	0.023	0.026	-5.55	0.00	86.4	0.02
Lesotho	34.9	23.9	29.6	0.016	0.014	5.33	0.00	93.8	0.02
Equatorial Guinea	32.6	2.4	3.0	0.015	0.001	29.61	0.01	8.2	0.00
Gambia, The	31.1	9.8	12.1	0.015	0.006	18.97	0.01	29.2	0.01
Belize	18.8	17.3	21.3	0.009	0.010	-2.54	0.00	39.9	0.01
San Marino	17.0	28.9	35.7	0.008	0.017	-18.70	-0.01	90.8	0.02
Vanuatu	17.0	5.8	7.1	0.008	0.003	9.87	0.00	16.2	0.00
Djibouti	15.9	9.5	11.7	0.007	0.006	4.21	0.00	29.1	0.01
Eritrea	15.9	10.7	13.2	0.007	0.006	2.70	0.00	30.6	0.01
St. Lucia	15.3	6.9	8.6	0.007	0.004	6.73	0.00	33.3	0.01
Guinea-Bissau	14.2	4.1	5.0	0.007	0.002	9.19	0.00	9.9	0.00

**Table I.7. Results of Regression Equation No. 7**  
(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	Quota	Shares	Quota	(1)-(3)	(4)-(5)	Existing 5-Formula System	Shares
	(In millions of SDRs)			(In percent)				Amount	Shares
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Antigua and Barbuda	13.5	10.7	13.2	0.006	0.006	0.32	0.00	51.9	0.01
Grenada	11.7	6.1	7.6	0.006	0.004	4.11	0.00	16.6	0.00
Samoa	11.6	2.9	3.6	0.005	0.002	8.05	0.00	11.6	0.00
Solomon Islands	10.4	7.4	9.1	0.005	0.004	1.26	0.00	19.9	0.00
Cape Verde	9.6	3.8	4.7	0.005	0.002	4.89	0.00	15.5	0.00
Comoros	8.9	3.0	3.7	0.004	0.002	5.23	0.00	10.5	0.00
St. Kitts and Nevis	8.9	2.5	3.1	0.004	0.001	5.82	0.00	12.8	0.00
Seychelles	8.8	7.0	8.6	0.004	0.004	0.17	0.00	24.6	0.00
St. Vincent and the Grenadin	8.3	5.5	6.8	0.004	0.003	1.51	0.00	16.2	0.00
Dominica	8.2	2.5	3.1	0.004	0.001	5.11	0.00	11.2	0.00
Maldives	8.2	5.1	6.3	0.004	0.003	1.92	0.00	23.9	0.00
Sao Tome and Principe	7.4	0.8	1.0	0.003	0.000	6.42	0.00	3.2	0.00
Tonga	6.9	3.3	4.1	0.003	0.002	2.84	0.00	10.0	0.00
Bhutan	6.3	3.2	3.9	0.003	0.002	2.40	0.00	14.4	0.00
Kiribati	5.6	-1.9	-2.3	0.003	-0.001	7.92	0.00	13.6	0.00
Micronesia, Fed. States of	5.1	1.8	2.2	0.002	0.001	2.89	0.00	13.1	0.00
Marshall Islands	3.5	2.1	2.6	0.002	0.001	0.95	0.00	7.8	0.00
Palau, Republic of	3.1	1.8	2.3	0.001	0.001	0.83	0.00	5.7	0.00
Total	61692.8	49,902.4	61692.8	29.096	29.096	0.00	0.00	138110.29	25.32
Memo: Sum of squared residuals						1,161,289	2.48		

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 so that their total equals the total of actual quotas.