

**Regression Number:** 35  
**Regression Name:** Members with Quota Shares of Equal to or Less Than 1.0 Percent  
 Re-estimated Bretton Woods Formula with Debt as an Additional Variable

**Quota Review:** Eleventh

$$Q = ( 0.00466 Y - 0.01321 R + 0.00190 P + 0.37379 VC + 0.00644 DEBT ) \times ( 1 + C/Y )$$

(4.25)    (-3.00)    (0.52)    (12.57)    (3.55)

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); DEBT is total external debt owed to non-residents repayable in foreign currency, goods, or services. It is the sum of public, publicly guaranteed, and private non-guaranteed debt, use of IMF credit, and short-term debt; t-ratios are given in parentheses.

Sample size	163	R-squared	0.83
Description of sample	Members with quotas shares equal to or less than 1.0 percent	Adjusted R-squared	0.83
		S.E. of regression	218.2
Estimation method	Nonlinear Least Squares	SSR (from estimation)	7,520,171

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

Y	24.6
R	-7.3
P	3.3
VC	42.5
DEBT	10.7
C/Y	<u>26.2</u>
Total	100.0

**Table I.35. Results of Regression Equation No. 35**  
(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 5-Formula System Amount (in mill SDRs)	Shares (In percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Argentina	2,117.1	1,725.7	2,061.0	0.998	0.972	56.10	0.03	3,487.7	0.639
Indonesia	2,079.3	2,108.7	2,518.5	0.981	1.188	-439.17	-0.21	4,318.0	0.792
Austria	1,872.3	1,766.6	2,109.9	0.883	0.995	-237.60	-0.11	6,972.5	1.278
South Africa	1,868.5	860.6	1,027.8	0.881	0.485	840.71	0.40	2,429.2	0.445
Nigeria	1,753.2	1,470.5	1,756.3	0.827	0.828	-3.09	0.00	2,246.8	0.412
Norway	1,671.7	1,524.9	1,821.2	0.788	0.859	-149.54	-0.07	5,209.6	0.955
Denmark	1,642.8	1,252.7	1,496.2	0.775	0.706	146.63	0.07	5,450.0	0.999
Korea	1,633.6	3,182.4	3,800.8	0.770	1.793	-2,167.17	-1.02	9,049.7	1.659
Iran	1,497.2	1,512.0	1,805.8	0.706	0.852	-308.63	-0.15	3,095.9	0.568
Malaysia	1,486.6	1,364.8	1,630.1	0.701	0.769	-143.46	-0.07	5,608.4	1.028
Kuwait	1,381.1	1,744.2	2,083.2	0.651	0.982	-702.07	-0.33	2,832.9	0.519
Ukraine	1,372.0	1,106.7	1,321.8	0.647	0.623	50.23	0.02	2,172.1	0.398
Poland	1,369.0	1,088.8	1,300.4	0.646	0.613	68.59	0.03	2,657.1	0.487
Finland	1,263.8	1,004.4	1,199.6	0.596	0.566	64.22	0.03	3,463.0	0.635
Algeria	1,254.7	1,050.1	1,254.1	0.592	0.591	0.57	0.00	1,811.0	0.332
Iraq	1,188.4	1,099.7	1,313.4	0.560	0.619	-125.04	-0.06	1,810.1	0.332
Libya	1,123.7	862.2	1,029.7	0.530	0.486	94.01	0.04	1,720.9	0.315
Thailand	1,081.9	1,235.9	1,476.1	0.510	0.696	-394.18	-0.19	4,701.3	0.862
Hungary	1,038.4	645.8	771.3	0.490	0.364	267.07	0.13	1,644.2	0.301
Pakistan	1,033.7	488.3	583.2	0.488	0.275	450.46	0.21	1,131.9	0.208
Romania	1,030.2	667.5	797.2	0.486	0.376	232.97	0.11	1,243.8	0.228
Turkey	964.0	1,317.7	1,573.7	0.455	0.742	-609.72	-0.29	2,905.9	0.533
Egypt	943.7	737.5	880.8	0.445	0.415	62.85	0.03	2,054.5	0.377
Israel	928.2	470.1	561.5	0.438	0.265	366.75	0.17	2,101.2	0.385
New Zealand	894.6	416.5	497.4	0.422	0.235	397.16	0.19	1,429.0	0.262
Philippines	879.9	712.5	850.9	0.415	0.401	28.97	0.01	1,852.2	0.340
Portugal	867.4	618.5	738.7	0.409	0.348	128.68	0.06	3,046.1	0.558
Singapore	862.5	1,050.7	1,254.8	0.407	0.592	-392.32	-0.19	8,339.7	1.529
Chile	856.1	399.6	477.3	0.404	0.225	378.85	0.18	1,398.3	0.256
Ireland	838.4	658.1	786.0	0.395	0.371	52.39	0.03	3,320.4	0.609
Greece	823.0	502.4	600.1	0.388	0.283	222.93	0.11	2,091.0	0.383
Czech Republic	819.3	724.6	865.5	0.386	0.408	-46.16	-0.02	1,736.0	0.318
Colombia	774.0	476.3	568.8	0.365	0.268	205.18	0.10	1,324.3	0.243
Bulgaria	640.2	638.0	761.9	0.302	0.359	-121.72	-0.06	1,046.6	0.192
Peru	638.4	395.4	472.2	0.301	0.223	166.19	0.08	858.3	0.157

**Table L35. Results of Regression Equation No. 35**  
(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	979.9	1,170.4	0.288	0.552	-558.66	-0.26	2,176.5	0.399
Morocco	588.2	341.0	407.3	0.277	0.192	180.92	0.09	919.4	0.169
Bangladesh	533.3	211.2	252.2	0.252	0.119	281.08	0.13	484.4	0.089
Congo, Dem. Republic of	533.0	210.2	251.1	0.251	0.118	281.94	0.13	301.1	0.055
Zambia	489.1	114.4	136.6	0.231	0.064	352.46	0.17	183.3	0.034
FRY (Serbia/Montenegro)	467.7	649.3	775.5	0.221	0.366	-307.83	-0.15	1,076.3	0.197
Sri Lanka	413.4	152.6	182.2	0.195	0.086	231.15	0.11	426.6	0.078
Belarus	386.4	390.7	466.6	0.182	0.220	-80.24	-0.04	648.9	0.119
Ghana	369.0	64.2	76.7	0.174	0.036	292.27	0.14	155.5	0.029
Kazakhstan	365.7	479.8	573.0	0.172	0.270	-207.28	-0.10	1,032.1	0.189
Croatia	365.1	407.0	486.0	0.172	0.229	-120.94	-0.06	860.9	0.158
Slovak Republic	357.5	345.2	412.3	0.169	0.194	-54.84	-0.03	748.1	0.137
Zimbabwe	353.4	95.4	114.0	0.167	0.054	239.42	0.11	234.1	0.043
Trinidad and Tobago	335.6	187.5	223.9	0.158	0.106	111.65	0.05	320.4	0.059
Vietnam	329.1	242.5	289.6	0.155	0.137	39.50	0.02	345.7	0.063
Cote d'Ivoire	325.2	251.1	299.9	0.153	0.141	25.35	0.01	379.0	0.069
Sudan	315.1	194.3	232.0	0.149	0.109	83.06	0.04	198.5	0.036
Uruguay	306.5	123.2	147.2	0.145	0.069	159.31	0.08	302.7	0.055
Ecuador	302.3	278.6	332.7	0.143	0.157	-30.42	-0.01	517.2	0.095
Syrian Arab Republic	293.6	473.5	565.5	0.138	0.267	-271.88	-0.13	723.7	0.133
Tunisia	286.5	232.8	278.0	0.135	0.131	8.46	0.00	621.4	0.114
Angola	286.3	363.3	433.9	0.135	0.205	-147.60	-0.07	516.1	0.095
Luxembourg	279.1	460.1	549.4	0.132	0.259	-270.35	-0.13	1,587.8	0.291
Uzbekistan	275.6	216.5	258.5	0.130	0.122	17.07	0.01	495.4	0.091
Jamaica	273.5	115.5	137.9	0.129	0.065	135.55	0.06	280.5	0.051
Kenya	271.4	126.3	150.9	0.128	0.071	120.52	0.06	273.7	0.050
Qatar	263.8	248.7	297.0	0.124	0.140	-33.19	-0.02	509.2	0.093
Myanmar	258.4	311.8	372.4	0.122	0.176	-113.95	-0.05	628.4	0.115
Yemen, Republic of	243.5	250.5	299.2	0.115	0.141	-55.73	-0.03	421.6	0.077
Slovenia	231.7	311.4	371.9	0.109	0.175	-140.25	-0.07	776.9	0.142
Dominican Republic	218.9	157.3	187.9	0.103	0.089	30.99	0.02	370.0	0.068
Brunei Darussalam	215.2	378.7	452.3	0.101	0.213	-237.08	-0.11	553.7	0.102
Guatemala	210.2	92.1	110.0	0.099	0.052	100.17	0.05	259.9	0.048
Panama	206.6	183.4	219.1	0.097	0.103	-12.48	-0.01	372.0	0.068
Lebanon	203.0	89.3	106.6	0.096	0.050	96.38	0.05	436.0	0.080

**Table 1.35. Results of Regression Equation No. 35**  
(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)
Tanzania	198.9	80.6	96.3	0.094	0.045	102.62	0.05	142.8	0.026
Oman	194.0	404.2	482.7	0.091	0.228	-288.71	-0.14	833.6	0.153
Cameroon	185.7	168.5	201.2	0.088	0.095	-15.55	-0.01	285.3	0.052
Uganda	180.5	49.1	58.6	0.085	0.028	121.91	0.06	86.5	0.016
Bolivia	171.5	82.1	98.0	0.081	0.046	73.45	0.04	155.4	0.028
El Salvador	171.3	67.6	80.7	0.081	0.038	90.56	0.04	192.5	0.035
Jordan	170.5	174.7	208.6	0.080	0.098	-38.11	-0.02	434.1	0.080
Bosnia-Herzegovina	169.1	146.0	174.4	0.080	0.082	-5.32	0.00	392.5	0.072
Costa Rica	164.1	95.4	113.9	0.077	0.054	50.22	0.02	282.4	0.052
Afghanistan, Islamic State of	161.9	20.2	24.1	0.076	0.011	137.80	0.07	54.2	0.010
Senegal	161.8	74.6	89.1	0.076	0.042	72.71	0.03	158.8	0.029
Azerbaijan	160.9	152.0	181.5	0.076	0.086	-20.58	-0.01	251.2	0.046
Gabon	154.3	228.9	273.4	0.073	0.129	-119.12	-0.06	383.3	0.070
Georgia	150.3	58.4	69.8	0.071	0.033	80.50	0.04	108.4	0.020
Lithuania	144.2	158.3	189.0	0.068	0.089	-44.85	-0.02	326.3	0.060
Cyprus	139.6	81.4	97.2	0.066	0.046	42.38	0.02	330.5	0.061
Namibia	136.5	66.5	79.4	0.064	0.037	57.14	0.03	190.9	0.035
Bahrain	135.0	237.6	283.7	0.064	0.134	-148.74	-0.07	589.0	0.108
Ethiopia	133.7	98.7	117.9	0.063	0.056	15.76	0.01	131.9	0.024
Papua New Guinea	131.6	102.4	122.3	0.062	0.058	9.35	0.00	232.4	0.043
Bahamas, The	130.3	68.9	82.3	0.061	0.039	47.99	0.02	190.5	0.035
Nicaragua	130.0	93.1	111.2	0.061	0.052	18.82	0.01	85.1	0.016
Honduras	129.5	69.4	82.9	0.061	0.039	46.61	0.02	138.7	0.025
Liberia	129.2	26.1	31.1	0.061	0.015	98.05	0.05	33.8	0.006
Latvia	126.8	118.6	141.6	0.060	0.067	-14.80	-0.01	253.1	0.046
Moldova	123.2	89.7	107.2	0.058	0.051	16.03	0.01	163.5	0.030
Madagascar	122.2	46.4	55.4	0.058	0.026	66.79	0.03	75.4	0.014
Iceland	117.6	51.5	61.5	0.055	0.029	56.11	0.03	197.3	0.036
Mozambique	113.6	45.2	54.0	0.054	0.025	59.57	0.03	76.9	0.014
Guinea	107.1	53.3	63.6	0.051	0.030	43.48	0.02	104.8	0.019
Sierra Leone	103.7	19.0	22.7	0.049	0.011	81.05	0.04	27.8	0.005
Malta	102.0	43.8	52.3	0.048	0.025	49.71	0.02	315.3	0.058
Mauritius	101.6	49.9	59.5	0.048	0.028	42.06	0.02	199.2	0.037
Paraguay	99.9	73.8	88.1	0.047	0.042	11.79	0.01	197.0	0.036
Mali	93.3	31.3	37.4	0.044	0.018	55.90	0.03	69.8	0.013

**Table I.35. Results of Regression Equation No. 35**  
(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/	Amount 2/	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	59.1	70.5	0.043	0.033	21.56	0.01	97.8	0.018
Armenia	92.0	53.9	64.4	0.043	0.030	27.64	0.01	101.8	0.019
Guyana	90.9	33.3	39.7	0.043	0.019	51.16	0.02	61.1	0.011
Kyrgyz Republic	88.8	79.7	95.2	0.042	0.045	-6.44	0.00	143.3	0.026
Cambodia	87.5	25.0	29.9	0.041	0.014	57.61	0.03	34.9	0.006
Tajikistan	87.0	131.8	157.4	0.041	0.074	-70.38	-0.03	225.4	0.041
Congo, Republic of	84.6	163.1	194.8	0.040	0.092	-110.21	-0.05	228.0	0.042
Haiti	81.9	23.1	27.5	0.039	0.013	54.35	0.03	42.8	0.008
Somalia	81.7	17.6	21.0	0.039	0.010	60.65	0.03	17.3	0.003
Rwanda	80.1	15.3	18.2	0.038	0.009	61.86	0.03	31.4	0.006
Burundi	77.0	13.9	16.6	0.036	0.008	60.43	0.03	30.5	0.006
Turkmenistan	75.2	122.2	145.9	0.035	0.069	-70.74	-0.03	272.1	0.050
Togo	73.4	23.7	28.3	0.035	0.013	45.09	0.02	47.4	0.009
Nepal	71.3	32.4	38.7	0.034	0.018	32.63	0.02	100.5	0.018
Fiji	70.3	39.0	46.6	0.033	0.022	23.69	0.01	109.7	0.020
Malawi	69.4	40.5	48.4	0.033	0.023	21.00	0.01	74.3	0.014
Macedonia, FYR	68.9	58.5	69.8	0.032	0.033	-0.93	0.00	144.4	0.026
Barbados	67.5	56.3	67.3	0.032	0.032	0.23	0.00	120.1	0.022
Niger	65.8	32.6	39.0	0.031	0.018	26.82	0.01	67.3	0.012
Estonia	65.2	73.5	87.8	0.031	0.041	-22.62	-0.01	167.1	0.031
Mauritania	64.4	31.9	38.1	0.030	0.018	26.32	0.01	52.9	0.010
Botswana	63.0	37.4	44.6	0.030	0.021	18.38	0.01	358.4	0.066
Benin	61.9	36.4	43.5	0.029	0.021	18.38	0.01	73.3	0.013
Burkina Faso	60.2	22.5	26.9	0.028	0.013	33.33	0.02	64.3	0.012
Chad	56.0	17.7	21.1	0.026	0.010	34.91	0.02	42.2	0.008
Central African Republic	55.7	14.1	16.8	0.026	0.008	38.87	0.02	35.6	0.007
Lao, People's Dem. Republi	52.9	22.8	27.2	0.025	0.013	25.73	0.01	34.8	0.006
Mongolia	51.1	46.5	55.5	0.024	0.026	-4.40	0.00	85.8	0.016
Swaziland	50.7	30.0	35.8	0.024	0.017	14.89	0.01	108.7	0.020
Albania	48.7	45.1	53.8	0.023	0.025	-5.13	0.00	86.4	0.016
Lesotho	34.9	30.1	36.0	0.016	0.017	-1.09	0.00	93.8	0.017
Equatorial Guinea	32.6	4.5	5.3	0.015	0.003	27.26	0.01	8.2	0.001
Gambia, The	31.1	13.2	15.7	0.015	0.007	15.36	0.01	29.2	0.005
Belize	18.8	18.3	21.8	0.009	0.010	-3.02	0.00	39.9	0.007
San Marino	17.0	30.1	36.0	0.008	0.017	-19.00	-0.01	90.8	0.017

**Table L35. Results of Regression Equation No. 35**  
(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 5-Formula System Amount	Shares (In percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Vanuatu	17.0	5.9	7.1	0.008	0.003	9.90	0.01	16.2	0.003
Djibouti	15.9	10.9	13.0	0.007	0.006	2.87	0.00	29.1	0.005
Eritrea	15.9	9.9	11.8	0.007	0.006	4.11	0.00	30.6	0.006
St. Lucia	15.3	8.1	9.7	0.007	0.005	5.59	0.00	33.3	0.006
Guinea-Bissau	14.2	8.4	10.1	0.007	0.005	4.12	0.00	9.9	0.002
Antigua and Barbuda	13.5	12.1	14.5	0.006	0.007	-0.97	0.00	51.9	0.010
Grenada	11.7	6.8	8.1	0.006	0.004	3.57	0.00	16.6	0.003
Samoa	11.6	4.0	4.8	0.005	0.002	6.78	0.00	11.6	0.002
Solomon Islands	10.4	8.5	10.1	0.005	0.005	0.27	0.00	19.9	0.004
Cape Verde	9.6	4.8	5.7	0.005	0.003	3.92	0.00	15.5	0.003
Comoros	8.9	4.1	4.9	0.004	0.002	4.01	0.00	10.4	0.002
St. Kitts and Nevis	8.9	3.0	3.5	0.004	0.002	5.37	0.00	12.8	0.002
Seychelles	8.8	8.1	9.7	0.004	0.005	-0.91	0.00	24.6	0.005
St. Vincent and the Grenadin	8.3	6.5	7.8	0.004	0.004	0.52	0.00	16.2	0.003
Dominica	8.2	3.2	3.8	0.004	0.002	4.36	0.00	11.2	0.002
Maldives	8.2	6.7	8.0	0.004	0.004	0.17	0.00	23.9	0.004
Sao Tome and Principe	7.4	2.1	2.5	0.003	0.001	4.87	0.00	3.2	0.001
Tonga	6.9	3.6	4.3	0.003	0.002	2.64	0.00	10.0	0.002
Bhutan	6.3	3.3	4.0	0.003	0.002	2.34	0.00	14.4	0.003
Kiribati	5.6	-2.8	-3.3	0.003	-0.002	8.92	0.00	13.6	0.002
Micronesia, Fed. States of	5.1	2.0	2.4	0.002	0.001	2.74	0.00	13.1	0.002
Marshall Islands	3.5	2.2	2.7	0.002	0.001	0.84	0.00	7.8	0.001
Palau, Republic of	3.1	1.7	2.1	0.001	0.001	1.02	0.00	5.7	0.001
Total	61,692.8	51,655.1	61,692.8	29.1	29.1	0.0	0.0	138,110.3	25.3
Memo: Sum of squared residuals						9,599,272.5	2.14		

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.