

**Regression Number:** 8  
**Regression Name:** Re-estimated Bretton Woods Formula for Members who Joined in the Past Twenty Years

**Quota Review:** Eleventh

$$Q = ( 0.00933 Y - 0.00756 R + 0.00541 P + 0.33538 VC ) \times ( 1 + C/Y )$$

(5.59)
(-0.53)
(0.72)
(8.85)

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 (1991-94); 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:	47	R-squared	0.99
Description of sample:	Members Who Joined Since	Adjusted R-squared	0.99
	November 1979	S.E. of Regression	87.5
Estimation method:	Nonlinear Least Squares	SSR (from estimation)	329,063

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

Y	30.5
R	-1.9
P	6.3
VC	36.2
C/Y	<u>28.9</u>
Total	100.0

**Table I.8. Results of Regression Equation No. 8**  
(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	Amount	Shares
	(In millions of SDRs)			(In percent)				(in mill SDRs)	(In percent)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Russia	5,945.4	5,957.0	6,043.2	2.804	2.850	-97.75	-0.05	10,052.3	1.843	
Switzerland	3,458.5	3,514.8	3,565.6	1.631	1.682	-107.08	-0.05	8,697.2	1.594	
Ukraine	1,372.0	1,212.9	1,230.5	0.647	0.580	141.54	0.07	2,172.1	0.398	
Poland	1,369.0	1,298.0	1,316.7	0.646	0.621	52.27	0.03	2,657.1	0.487	
Hungary	1,038.4	710.3	720.5	0.490	0.340	317.87	0.15	1,644.2	0.301	
Czech Republic	819.3	848.1	860.4	0.386	0.406	-41.09	-0.02	1,736.0	0.318	
Bulgaria	640.2	596.6	605.2	0.302	0.285	34.95	0.02	1,046.6	0.192	
Belarus	386.4	398.1	403.8	0.182	0.190	-17.41	-0.01	648.9	0.119	
Kazakstan	365.7	519.2	526.7	0.172	0.248	-161.03	-0.08	1,032.1	0.189	
Croatia	365.1	456.4	463.0	0.172	0.218	-97.87	-0.05	860.9	0.158	
Slovak Republic	357.5	381.6	387.1	0.169	0.183	-29.64	-0.01	748.1	0.137	
Zimbabwe	353.4	101.2	102.7	0.167	0.048	250.71	0.12	234.1	0.043	
Angola	286.3	292.1	296.3	0.135	0.140	-10.03	-0.01	516.1	0.095	
Uzbekistan	275.6	240.3	243.8	0.130	0.115	31.83	0.02	495.4	0.091	
Yemen, Republic of	243.5	298.3	302.6	0.115	0.143	-59.12	-0.03	421.6	0.077	
Slovenia	231.7	386.9	392.5	0.109	0.185	-160.78	-0.08	776.9	0.142	
Brunei Darussalam	215.2	385.5	391.1	0.101	0.184	-175.89	-0.08	553.7	0.102	
Bosnia-Herzegovina	169.1	171.6	174.0	0.080	0.082	-4.94	0.00	392.5	0.072	
Azerbaijan	160.9	157.3	159.6	0.076	0.075	1.28	0.00	251.2	0.046	
Georgia	150.3	54.9	55.7	0.071	0.026	94.62	0.05	108.4	0.020	
Lithuania	144.2	178.3	180.8	0.068	0.085	-36.63	-0.02	326.3	0.060	
Namibia	136.5	87.7	88.9	0.064	0.042	47.56	0.02	190.9	0.035	
Latvia	126.8	132.8	134.8	0.060	0.064	-7.96	0.00	253.1	0.046	
Moldova	123.2	92.0	93.4	0.058	0.044	29.84	0.01	163.5	0.030	
Mozambique	113.6	23.4	23.7	0.054	0.011	89.90	0.04	76.9	0.014	
Armenia	92.0	56.1	56.9	0.043	0.027	35.09	0.02	101.8	0.019	
Kyrgyz Republic	88.8	81.8	83.0	0.042	0.039	5.81	0.00	143.3	0.026	
Tajikistan	87.0	127.5	129.4	0.041	0.061	-42.38	-0.02	225.4	0.041	
Turkmenistan	75.2	150.1	152.3	0.035	0.072	-77.10	-0.04	272.1	0.050	
Macedonia, FYR	68.9	67.7	68.7	0.032	0.032	0.20	0.00	144.4	0.026	
Estonia	65.2	83.9	85.1	0.031	0.040	-19.86	-0.01	167.1	0.031	
Mongolia	51.1	45.8	46.5	0.024	0.022	4.65	0.00	85.8	0.016	
Albania	48.7	47.3	48.0	0.023	0.023	0.71	0.00	86.4	0.016	
Belize	18.8	19.7	20.0	0.009	0.009	-1.24	0.00	39.9	0.007	
San Marino	17.0	37.5	38.1	0.008	0.018	-21.07	-0.01	90.8	0.017	
Vanuatu	17.0	7.1	7.2	0.008	0.003	9.83	0.01	16.2	0.003	
Eritrea	15.9	13.1	13.3	0.007	0.006	2.65	0.00	30.6	0.006	
St. Lucia	15.3	11.6	11.7	0.007	0.006	3.55	0.00	33.3	0.006	
Antigua and Barbuda	13.5	17.6	17.8	0.006	0.008	-4.34	0.00	51.9	0.010	
St. Kitts and Nevis	8.9	4.3	4.4	0.004	0.002	4.51	0.00	12.8	0.002	

**Table I.8. Results of Regression Equation No. 8**  
(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)
St. Vincent and the Grenadin	8.3	7.2	7.3	0.004	0.003	1.01	0.00	16.2	0.003
Tonga	6.9	4.2	4.3	0.003	0.002	2.63	0.00	10.0	0.002
Bhutan	6.3	4.7	4.8	0.003	0.002	1.52	0.00	14.4	0.003
Kiribati	5.6	-0.5	-0.5	0.003	0.000	6.06	0.00	13.6	0.002
Micronesia, Fed. States of	5.1	3.7	3.7	0.002	0.002	1.36	0.00	13.1	0.002
Marshall Islands	3.5	3.0	3.0	0.002	0.001	0.49	0.00	7.8	0.001
Palau, Republic of	3.1	2.3	2.3	0.001	0.001	0.77	0.00	5.7	0.001
Total	19,569.9	19,290.9	19,569.9	9.2	9.2	0.0	0.0	37,638.9	6.9
Memo: Sum of squared residuals						340,372.6	0.08		

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.