

**REAL EXCHANGE RATES AND INTERNATIONAL
COMPETITIVENESS OF SAARC COUNTRIES, 1960-2000**
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Abstract

In an attempt to measure the intra and international trade competitiveness, we construct the indices of real exchange rate (RER), the conventional measure of competitiveness, for four major South Asian Association of Regional Cooperation (SAARC) nations using annual data for the period of 1960-2000. The objective of the study is to examine the performances of the sampled countries especially after the economic reforms through trade liberalisation that have been taken place under South Asian Preferential Trading Arrangement (SAPTA) and comparing the evolution in Bangladesh, India, Pakistan and Sri Lanka. Our empirical results reveal that in terms of intra regional trade the smaller countries, namely Bangladesh and Sri Lanka reap the higher gains from openness in their trade regime. However, Bangladesh and India gained international competitiveness not until mid 1990s. Movements of Real exchange rates for Pakistan and Sri Lanka indicate that trade liberalisation efforts did not seem to have much positive gain in terms of international trade.

Keywords: SAARC, SAPTA, SAFTA, Trading Bloc, Intra- and international Competitiveness, Real exchange rate, Openness in trade regime.

JEL Classification: F100, F470.

1. Introduction

The purpose of this study is to construct the real exchange rate indices for the major South Asian Association of Regional

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Cooperation (SAARC) nations, namely, Bangladesh, India, Pakistan and Sri Lanka to assess the effects of economic reforms towards a more liberalised regional trading bloc arrangement (Chowdhury, 2005). Conventionally the movement of real exchange rate indicates the changes in competitiveness of an economy or a sector.

The paper is organised as follows: Section II constructs real exchange rate indices to measure the changes of competitiveness of these countries in terms of intra-regional trade and international trade. A brief discussion of methodology, sources of data and variable definition is provided in this Section. Section III compares the real exchange rate indices of these countries and analyse the policy implications in terms of the effectiveness of liberalising the economies. Section IV summarises the findings and draws the conclusion of the study.

2. Methodology of Calculating Real Exchange Rate

Concept of Real Exchange Rate

Among the possible conceptual definitions of real exchange rate (RER), the direct measure, the ‘Salter ratio’, the ratio of the relative price of tradables (P_T) with respect to nontradables (P_{NT}) is adopted for this study. The definition of the real exchange rate focuses on the rate at which tradables are exchanged for nontradables, or the cost of domestically produced tradables. A fall in this ratio represents an appreciation of the real exchange rate. Real exchange rate appreciation is synonymous with a deterioration in a country’s international competitiveness as it reduces the profitability of the traded sector and diverts resources from tradable sector to non tradable sector, as well as increasing the domestic cost of producing tradable goods. The measure of competitiveness, commonly used in nearly all studies of real exchange rate discussion, is the relative price of a basket of foreign goods in terms of a basket of domestic goods. An increase in this ratio represents a real depreciation or an improvement in the international competitiveness of tradable production of the country.

Real Exchange Rate Index

Constructing the direct measure of RER index is difficult since the exact counterpart of the price of tradables (P_T) and nontradables (P_{NT}) is not directly observable¹. Several alternative price indices for the price of tradables and nontradables are eligible candidates for constructing the index. Given the practical limitations of direct measures, the popular and common practice is to construct a real exchange index where the trade-weighted nominal exchange rate (e_{TW}) is deflated by the ratio of foreign price (P^*) to the domestic price (P). Therefore, the real exchange rate for this study is proxied by trade-weighted real exchange rate, RER, and is defined in this paper as:

$$RERT = e_{TW} \frac{WPI^*}{P}$$

where, WPI^* is the foreign wholesale price index proxied for the world price of tradable goods, e_{TW} is the trade-weighted nominal effective exchange rate and P is the domestic price level (Services Price Index (SPI)) representing the price of domestic non tradable goods. CPI and GDP deflator are common proxies for the price of non tradable. However, we consider using SPI (P) as it is the closer proxy for non tradable than CPI and GDP deflator as it doesn't include any tradable items as in CPI basket. So far, we have considered the price of tradable as a composite price of importable and exportable goods. But a distinction between the price of importable and the price of exportable is necessary as different trade controls and changes in international prices can affect the price movements in exportable and importable quite differently. Moreover, domestic trade restrictions can affect the price of importable more than exportable and may change some import substitutes into non tradable categories. Therefore, it is more appropriate to use the export price index (P_{EXP}) and import price index (P_{IMP}) separately as proxies for the world price of exportable and importable. This division of P_{EXP} and P_{IMP} clearly reflects the price movements of goods and services that are actually traded.

¹ For detail discussion, see Chowdhury (2004,1998) .

Therefore, two direct measures of the real exchange rate can be defined as the ratio of the relative price of exportable to non tradable (proxied either by the domestic CPI or SPI):

$$\text{RERX} = \frac{P_{\text{EXP}}}{P_{\text{NT}}}$$

and the ratio of domestic relative price of importable to non tradable,

$$\text{RERI} = \frac{P_{\text{IMP}}}{P_{\text{NT}}}$$

which can serve as measures of competitiveness in the tradable sectors of an economy.

On the basis of the above discussion, we have constructed two alternative measures of real exchange rates² for examining the intra and international trade competitiveness of major SAARC countries under study, namely ISRER (indicating competitiveness among the SAARC countries) and RERI (indicating international competitiveness) for each of four countries. We also construct two other direct measures of competitiveness for both the export sector and import sector, namely RERX and RERI of each of the four countries and these are reported in Table A1-A4 in the appendix. These measures of real exchange rates are least flawed of all the indices available. These indices are robust and operational measures of the real exchange rate and appropriately indicate the movement in the relative prices of tradables to nontradables in those SAARC countries over the period 1960-2000.

² $\text{RERT} = e_{\text{TW}} (\text{WPI}^*/\text{SPI})$, where e_{TW} is the trade-weighted nominal effective exchange rate, WPI^* is the wholesale price indices of major trading partners of each of the four countries and SPI is used for the domestic price of nontradable.

RERX is defined as the export price index divided by the SPI of the respective country, i.e., $\text{RERX} = P_{\text{EXP}}/\text{SPI}$.

RERI = $P_{\text{IMP}}/\text{SPI}$, is the ratio of import price index to the SPI of the respective country.

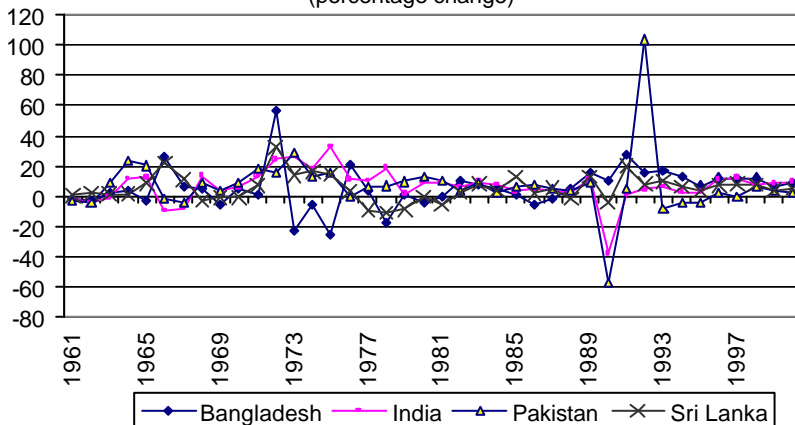
Data Sources

The real exchange rate indices, using alternative measures are constructed over the period 1960-2000 using annual data following the methodology described above. The variables are extracted from the DX World Bank *World Tables* and IMF *International Financial Statistics*.

3. Intra and International Competitiveness of SAARC Countries

This Section attempts to have a comparative study of intra and international trade competitiveness of the major SAARC nations measured by the real exchange rate movements over the period of 1960 and 2000. We mainly focus on the era of trade liberalisation efforts undertaken by the SAARC countries from the late 1980s to the end of the century.

Figure A.1 Intra-SAARC Trade Competitiveness 1961-2000
(percentage change)



Source: Appendix Table A.5.

Bangladesh

Bangladesh has been regarded as one of the small countries among the SAARC members in terms of its GDP and international trade. Traditionally the trade regime was characterised as inward looking until late 1970s. From the early 1980s Bangladesh introduced trade

liberalisation gradually as it became one of the founding members of SAARC. From the mid 1980s, Bangladesh's intra trade competitiveness among the SAARC member countries has risen gradually as indicated by the intra-SAARC real exchange rate of Bangladesh ($ISRER_B$ ³). The rise in the competitiveness is quite spectacular for Bangladesh from 1995 as it came under SAPTA

Bangladesh's international trade increased quite rapidly as it liberalises its trade regime from the mid 1980s (Chowdhury, 2005). To assess international competitiveness, we construct the trade weighted international real exchange rate of Bangladesh ($IRER_B$ in Appendix Table A.1). The major trading partners of Bangladesh are USA (0.47), UK (0.12), UAE (0.11), Germany (0.15), France (0.08), Italy (0.07) and their trade weights are given inside the brackets. In terms of international trade with its major trading partners, Bangladesh's trade competitiveness is mixed from the mid 1980s to mid 1990s. However, Bangladesh showed strong gain in international competitiveness between 1993-94 and again between 1999 and 2000 as it expands its trade liberalisation under SAPTA. We construct two other direct measures of competitiveness for tradable sectors, namely, $RERX_B$ (real exchange rate for export sector) and $RERI_B$ (real exchange rate for import sector). Both export and import sectors competitiveness indices rose gradually from the mid 1990s indicating increased competitiveness of the tradable sector. These outcomes are consistent with the expected result of liberalisation efforts undertaken by SAPTA agreement.

Table A.1 Intra and International Real Exchange Rate Indices for Bangladesh 1960-2000 (1995=100)

Year	$ISRER_B$	$IRER_B$	$RERE_B$	$BRERI_B$	Year	$ISRER_B$	$IRER_B$	$RERE_B$	$BRERI_B$
1960	26.38	161.96	236.91	168.21	1980	30.62	110.89	157.62	194.93
1961	25.81	159.72	316.36	175.11	1981	30.64	138.58	159.84	212.76

³ $ISRER_B$ = intra-SAARC trade weighted real exchange rate of Bangladesh. For this study, we construct the real exchange rate of Bangladesh considering the three major SAARC member countries, namely India (0.60), Pakistan (0.38) and Sri Lanka (0.02). Trade shares are given inside the brackets.

1962	25.12	155.00	260.73	162.82	1982	33.58	162.71	154.41	241.67
1963	25.68	154.72	237.24	154.18	1983	36.29	175.84	177.68	245.39
1964	26.62	160.03	235.77	164.83	1984	37.93	184.31	187.23	222.49
1965	25.82	153.99	245.88	160.74	1985	38.25	181.97	198.04	188.08
1966	32.68	156.75	245.64	156.91	1986	36.26	127.50	158.76	196.98
1967	34.86	145.14	256.29	136.03	1987	35.75	102.13	156.70	182.50
1968	36.44	151.93	229.77	138.14	1988	37.53	96.72	156.77	169.53
1969	34.51	142.70	219.55	131.33	1989	43.49	97.57	145.51	178.13
1970	36.10	150.30	213.57	132.56	1990	48.10	83.42	89.35	99.88
1971	36.45	149.17	205.40	133.40	1991	61.38	84.77	104.70	110.77
1972	57.00	175.42	255.02	181.46	1992	71.18	82.15	102.48	127.39
1973	44.09	116.27	165.47	330.30	1993	82.88	101.82	101.55	104.32
1974	41.38	113.40	131.68	153.02	1994	93.54	102.16	101.63	113.81
1975	30.88	81.79	96.39	139.76	1995	100.00	100.00	100.00	100.00
1976	37.39	122.05	160.47	251.05	1996	112.14	91.78	96.87	99.42
1977	38.59	144.26	185.83	244.35	1997	124.84	99.13	94.61	102.59
1978	32.00	119.37	150.44	201.59	1998	140.01	97.48	99.23	105.53
1979	32.19	112.72	175.52	223.11	1999	148.19	99.19	101.40	111.16
					2000	160.60	114.18	103.32	113.20

Source: Constructed by the author. $ISRER_1$ = Intra-SAARC real exchange rate of Bangladesh; $IRER_1$ = International real exchange rate of Bangladesh; $RERE_1$ = Real exchange rate of export sector of Bangladesh; $RERI_1$ = Real exchange rate of import sector of Bangladesh.

India

India is the largest economy of this economic bloc in terms of its GDP and foreign trade. However, India has been taking very cautious steps towards liberalisation of its trade regime as it is reflected by the lowest measure of openness. Although India's intra-SAARC trade⁴ competitiveness continues to rise from the early 1990s as indicated by $ISRER_1$, its international competitiveness has

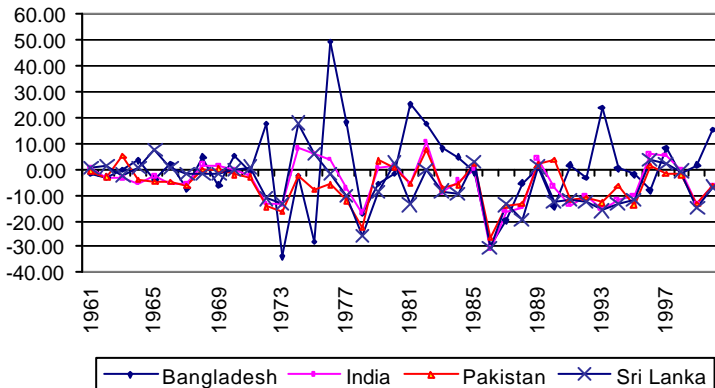
⁴ India's large intra-regional trade share is represents India's large trade surplus in the region as it's imports accounts only 5 per cent of total import from the region where as its export to the region accounts for more than 50 per cent in 1995.

not shown much improvement until 1996 (Appendix Table A.5). However, India's rate of international competitiveness declined during the last three years of the century. Competitiveness of traded, both export and import sectors seem to be improving on average over the 1990s for India. This outcome reveals India's slower pace moving towards outward trade regime in terms of both intra and international trade.

Pakistan

Pakistan has shown some improvement in its intra-SAARC competitiveness from the mid 1980s to early 1990s (Appendix Table A.5). However its rate of competitiveness shows negative growth between 1993 and 1997 except for 1996 before it starts having positive growth in competitiveness as it comes under SAPTA agreement to reduce tariff and non-tariff barriers (also in Appendix Table A.3). Nevertheless, Pakistan has not been able to secure competitiveness in international trade outside SAARC region as indicated by negative rate of real exchange rate growth (IRER_p in Appendix Table A.5). In terms of export and import competitiveness; Pakistan was able to improve its competitiveness in some years after 1995.

Figure A.2 International Trade Competitiveness of SAARC Countries 1961-2000



Source: Appendix Table A.5.

Sri Lanka

Sri Lanka has adopted a relatively open trade regime than other SAARC members from the early 1970s and also pursuing its goal towards more openness as is indicated by its openness measure of 80 per cent in 1990 and 100 per cent in 2000 (Chowdhury, 2005). Due to its relatively open trade regime, Sri Lanka was having intra-SAARC competitiveness from the very beginning of the trading bloc's economic cooperation. However, it has not been able to gain strong competitiveness in its international trade until 1996 and its RER continue to appreciate from 1999 reflecting loss of international competitiveness (Appendix Table A.4 and A.5) except for 2000. Sri Lanka's tradable sectors real exchange rate indices indicate some improvements of export and import competitiveness from the late 1990s.

Conclusions

Our indices of measure of competitiveness indicate that in terms of intra-regional trade and international trade, Bangladesh and Sri Lanka gained considerably from trade liberalisation, especially after coming under SAPTA. This empirical result is consistent with one of the major empirical research by Srinivasan (1994) indicating that small economies would gain significantly from a regional trade bloc. Although India's share in intra-regional trade is significantly high (67% in 1995), the trade composition is lop-sided towards and from the regional bloc. Real exchange rate indices for India indicate that it's intra-regional competitiveness has been continuously improving, whereas international competitiveness and competitiveness of the tradable sectors are not yet gained consistent improvement. Among these four major SAARC countries, Pakistan's competitiveness indices indicate less improvement from trade liberalisation efforts.

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Appendix

$ISRER_B / IRER_B = e_{TW} (WPI^*/SPI)$, where e_{TW} is the trade-weighted nominal effective exchange rate, WPI^* is the wholesale price indices of SAARC and international trading partners of Bangladesh and SPI is used for the domestic price of nontradable.

$RERX_B$ is defined as the export price index of Bangladesh divided by the SPI the country, i.e., $RERX = P_{EXP}/SPI$.

$RERI_B = P_{IMP}/SPI$, is the ratio of import price index of Bangladesh to the SPI.

Table A.2 Intra and International Real Exchange Rate Indices for India (1995=100)

Year	ISRER _I	IRER _I	RERX _I	RERI _I	Year	ISRER _I	IRER _I	RERX _I	RERI _I
1960	14.80	837.70	67.53	77.67	1981	86.59	424.14	82.96	71.64
1961	14.46	840.54	68.19	77.80	1982	91.43	468.52	89.85	78.95
1962	13.83	812.98	61.87	70.19	1983	99.79	426.78	88.32	72.88
1963	13.69	783.70	59.62	69.80	1984	107.25	407.44	88.79	70.80
1964	15.27	740.70	55.58	66.40	1985	110.65	408.44	83.29	64.52
1965	17.17	719.84	55.66	64.84	1986	115.33	282.92	82.27	60.77
1966	15.46	679.57	67.02	75.82	1987	119.24	236.26	82.89	66.90
1967	14.27	641.79	71.30	82.08	1988	122.56	200.89	91.07	69.50
1968	16.15	652.91	66.934	76.16	1989	136.06	208.88	100.310	78.25
1969	16.76	660.91	69.389	77.40	1990	84.71	194.53	96.50	82.19
1970	17.68	660.96	60.074	49.14	1991	85.32	167.46	105.66	88.74
1971	20.04	644.20	62.893	43.14	1992	89.03	149.88	108.60	90.60
1972	24.96	558.54	65.153	44.56	1993	94.77	126.96	112.08	91.63
1973	31.61	482.40	66.353	46.15	1994	97.52	111.64	112.77	94.46
1974	37.31	521.71	73.128	67.44	1995	100.00	100.00	100.00	100.00
1975	49.46	553.88	82.542	78.14	1996	110.96	105.61	96.35	97.09
1976	54.84	575.03	81.777	78.57	1997	124.44	110.87	97.29	91.49
1977	60.34	532.59	87.246	62.25	1998	133.46	110.83	95.24	96.99
1978	71.69	442.83	84.141	79.02	1999	144.91	95.68	100.20	104.14
1979	72.88	445.47	83.198	77.65	2000	158.32	89.79	115.14	112.80
1980	79.42	449.79	82.275	76.49					

Source: Constructed by the author. $ISRER_I$ = Intra-SAARC real exchange rate of India; $IRER_I$ = International real exchange rate of India; $RERX_I$ = Real exchange rate of export sector of India; $RERI_I$ = Real exchange rate of import sector of India.

Table A.3 Intra and International Real Exchange Rate Indices for Pakistan 1960-2000 (1995=100)

Year	ISRER _p	IRER _p	RERX _p	RERI _p	Year	ISRER _p	IRER _p	RERX _p	RERI _p
1960	13.65	1033.85	170.31	120.93	1981	84.39	328.99	102.63	85.68
1961	13.27	1027.43	227.50	125.92	1982	86.93	354.29	94.81	87.57
1962	12.76	996.10	187.93	117.36	1983	94.75	328.26	96.52	88.06
1963	13.85	1050.21	183.44	119.21	1984	96.94	309.27	98.00	85.13
1964	17.15	1008.32	171.93	120.20	1985	103.30	316.52	99.77	84.90
1965	20.61	961.31	181.93	118.93	1986	110.51	232.14	90.06	90.81
1966	20.24	914.19	173.54	110.86	1987	115.60	199.52	93.95	86.67
1967	19.33	856.59	184.79	98.08	1988	119.60	172.81	109.16	100.26
1968	21.12	855.28	67.86	27.64	1989	129.90	176.07	102.96	97.55
1969	21.83	856.63	61.77	32.56	1990	55.72	182.19	119.83	114.24
1970	23.72	839.22	52.43	25.53	1991	58.39	160.46	99.54	128.92
1971	27.97	814.23	48.16	24.93	1992	118.98	142.66	97.50	107.39
1972	32.25	697.22	96.32	48.78	1993	109.10	124.13	92.23	99.68
1973	41.69	581.17	114.44	57.69	1994	104.51	116.02	91.94	99.22
1974	47.27	567.92	142.35	64.69	1995	100.00	100.00	100.00	100.00
1975	54.49	522.95	109.07	80.20	1996	102.18	101.48	98.25	101.71
1976	54.38	492.64	98.27	67.55	1997	101.32	99.90	108.71	105.58
1977	57.69	433.18	106.91	62.05	1998	107.71	97.84	121.46	102.29
1978	61.71	335.86	102.51	61.30	1999	110.89	84.74	121.82	109.29
1979	67.70	347.29	109.47	60.61	2000	112.99	79.32	110.19	108.57
1980	76.24	348.84	116.28	67.08					

Source: Constructed by the author. ISRER_p = Intra-SAARC real exchange rate of Pakistan; IRER_p = International real exchange rate of Pakistan; RERE_p = Real exchange rate of export sector of Pakistan; RERI_p = Real exchange rate of import sector of Pakistan.

Table A.4 Intra and International Real Exchange Rate Indices for Sri Lanka 1960-2000 (1995=100)

Year	ISRER _{SL}	IRER _{SL}	RERX _{SL}	RERI _{SL}	Year	ISRER _{SL}	IRER _{SL}	RERX _{SL}	RERI _{SL}
1960	19.20	1042.96	70.86	61.55	1981	43.88	554.17	103.25	122.32
1961	19.27	1051.53	64.51	60.81	1982	44.83	552.46	87.64	104.78
1962	19.60	1062.96	62.61	56.68	1983	48.35	505.98	99.73	110.23
1963	19.90	1040.42	60.99	61	1984	49.98	457.29	118.02	79.98
1964	20.14	1047.2	61.48	62.3	1985	56.39	470.59	103.95	96.36
1965	21.82	1129.01	65.87	65.65	1986	57.35	326.78	86.02	85.61
1966	26.67	1137.79	60.91	64.01	1987	60.26	282.35	97.93	91.8

1967	29.60	1117.18	54.35	62.53	1988	59.19	227.39	89.92	93.68
1968	28.76	1096.34	61.16	63.73	1989	66.71	229.97	91.07	100.58
1969	28.57	1078.42	56.62	64.05	1990	63.93	201.19	95.84	98.98
1970	28.36	1077.21	53.46	56.31	1991	76.68	177.88	90.81	94.03
1971	30.40	1086.44	53.7	58.43	1992	82.84	155.52	98.79	98.92
1972	40.22	964.46	51.98	59.46	1993	90.95	130.9	99.4	97.64
1973	45.79	835.06	61.24	71.32	1994	96.69	113.62	92.7	94.95
1974	53.39	984.36	91.4	115.45	1995	100.00	100	100	100
1975	61.22	1045.63	82.93	125.72	1996	107.05	103.57	98.41	96.58
1976	63.21	1029.51	88.98	103.16	1997	115.45	105.93	98.7	93.15
1977	57.41	923.45	132.39	116.5	1998	124.19	105.26	102.32	85.43
1978	51.14	686.31	127.56	114.46	1999	128.93	89.54	98.65	83.7
1979	46.77	625.75	109.25	111.91	2000	135.15	83.31	109.44	91.95
1980	46.59	641.32	115.81	129.16					

Source: Computed by the author. ISRER_{SL} = Intra-SAARC real exchange rate of Sri Lanka; IRER_{SL} = International real exchange rate of Sri Lanka; RERE_{SL} = Real exchange rate of export sector of Sri Lanka; RERI_{SL} = Real exchange rate of import sector of Sri Lanka.

Table A.5 Growth of Intra and International Competitiveness of Major SAARC Countries, 1961-2000

Year	Growth in Intra-SAARC Competitiveness				Growth in International Competitiveness			
	Bangladesh	India	Pakistan	Sri Lanka	Bangladesh	India	Pakistan	Sri Lanka
1961	-2.16	-2.30	-2.78	0.36	-1.38	0.34	-0.62	0.82
1962	-2.67	-4.36	-3.84	1.71	-2.96	-3.28	-3.05	1.09
1963	2.23	-1.01	8.54	1.53	-0.18	-3.60	5.43	-2.12
1964	3.66	11.54	23.83	1.21	3.43	-5.49	-3.99	0.65
1965	-3.01	12.44	20.17	8.34	-3.77	-2.82	-4.66	7.81
1966	26.57	-9.96	-1.80	22.23	1.79	-5.59	-4.90	0.78
1967	6.67	-7.70	-4.50	10.99	-7.41	-5.56	-6.30	-1.81
1968	4.53	13.17	9.26	-2.84	4.68	1.73	-0.15	-1.87
1969	-5.30	3.78	3.36	-0.66	-6.08	1.23	0.16	-1.63
1970	4.61	5.49	8.66	-0.74	5.33	0.01	-2.03	-0.11
1971	0.97	13.35	17.92	7.19	-0.75	-2.54	-2.98	0.86
1972	56.38	24.55	15.30	32.30	17.60	-13.30	-14.37	-11.23
1973	-22.65	26.64	29.27	13.85	-33.72	-13.63	-16.64	-13.42

1974	-6.15	18.03	13.38	16.60	-2.47	8.15	-2.28	17.88
1975	-25.37	32.56	15.27	14.67	-27.87	6.17	-7.92	6.22
1976	21.08	10.88	-0.20	3.25	49.22	3.82	-5.80	-1.54
1977	3.21	10.03	6.09	-9.18	18.20	-7.38	-12.07	-10.30
1978	-17.08	18.81	6.97	-10.92	-17.25	-16.85	-22.47	-25.68
1979	0.59	1.66	9.71	-8.55	-5.57	0.60	3.40	-8.82
1980	-4.88	8.97	12.61	-0.38	-1.62	0.97	0.45	2.49
1981	0.07	9.03	10.69	-5.82	24.97	-5.70	-5.69	-13.59
1982	9.60	5.59	3.01	2.16	17.41	10.46	7.69	-0.31
1983	8.07	9.14	9.00	7.85	8.07	-8.91	-7.35	-8.41
1984	4.52	7.48	2.31	3.37	4.82	-4.53	-5.79	-9.62
1985	0.84	3.17	6.56	12.83	-1.27	0.25	2.34	2.91
1986	-5.20	4.23	6.98	1.70	-29.93	-30.73	-26.66	-30.56
1987	-1.41	3.39	4.61	5.07	-19.90	-16.49	-14.05	-13.60
1988	4.98	2.78	3.46	-1.78	-5.30	-14.97	-13.39	-19.47
1989	15.88	11.02	8.61	12.70	0.88	3.98	1.89	1.13
1990	10.60	-37.74	-57.11	-4.17	-14.50	-6.87	3.48	-12.51
1991	27.61	0.72	4.79	19.94	1.62	-13.92	-11.93	-11.59
1992	15.97	4.35	103.77	8.03	-3.09	-10.50	-11.09	-12.57
1993	16.44	6.45	-8.30	9.79	23.94	-15.29	-12.99	-15.83
1994	12.86	2.90	-4.21	6.31	0.33	-12.07	-6.53	-13.20
1995	6.91	2.54	-4.32	3.42	-2.11	-10.43	-13.81	-11.99
1996	12.14	10.96	2.18	7.05	-8.22	5.61	1.48	3.57
1997	11.33	12.15	-0.84	7.85	8.01	4.98	-1.56	2.28
1998	12.15	7.25	6.31	7.57	-1.66	-0.04	-2.06	-0.63
1999	5.84	8.58	2.95	3.82	1.75	-13.67	-13.39	-14.93
2000	8.37	9.25	1.89	4.82	15.11	-6.16	-6.40	-6.96

Source: Computed by the author.