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India's Trade Competitiveness and Exchange Rate Policy

P.R. Bhatt

There is a general view that the export performance of India is unsatisfactory because of its low competitiveness, but no systematic attempt has been made to validate this view. India needs a 12 per cent compound annual growth rate for exports during 2002–07 to reach 1 per cent of world exports of US\$ 80.5 trillion. The Indian government has made serious efforts to reform trade policies to make exports more competitive globally. An attempt has been made in this article to measure India's trade competitiveness and examine the role of the exchange rate policy in trade competitiveness. The results indicate that when nominal and real exchange rates appreciate, export price competitiveness (Relative Export Price [REP]) improves, but the competitiveness of profitability (Relative Profitability of Exports and Profitability of Exports Index) deteriorates.

Keywords: Competitiveness, Nominal and Real Effective Exchange Rates, Price Index
JEL Classification: F10, F13

1. INTRODUCTION

There is a general view that India's unsatisfactory export performance can be attributed to low export competitiveness. India's exports constituted 10 per cent of its gross domestic product (GDP) and 0.7 per cent of world exports in 2000–01. The share of exports in the country's GDP has increased from 4 per cent in 1960–61 to 10 per cent in 2000–01, but its share in world exports has fallen sharply from 1.1 per cent to 0.7 per cent during the same period. India's exports (in dollar terms) have grown, on an average, at 5 per cent per annum in the 1960s, 32 per cent per annum in the 1970s, at 11 per cent per annum in the 1980s, at 8.7 per cent per annum in the 1990s and by 21 per cent in 2000–01. India's exports constituted 4.2 per cent of its GDP in 1960–61, 3.9 per cent in 1970–71, 5.5 per cent in 1980–81, 5.7 per cent in 1990–91 and 10.1 per cent

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in 2000–01. India exports need to grow at a compound annual rate of 12 per cent during 2002–07 to reach 1 per cent of world exports of US\$ 80.5 trillion.

The objectives of the paper are to measure India's trade competitiveness in relation to its competitors and to examine the effectiveness of the exchange rate policy on the trade competitiveness. A simple regression was carried out to examine the effectiveness of exchange rate on trade competitiveness. Here, the trade competitive index was regressed on the nominal effective exchange rate (NEER) and the real effective exchange rate (REER) over the period 1973–2003.

There were some empirical studies analysing the relationship between real exchange rate depreciation and merchandise export of India. Joshi and Little (1994) and Srinivasan and Wallack (2003) have shown a positive relationship between real exchange rate depreciation and merchandise exports in India. However, Sarkar (1992) found that the depreciation of the rupee since 1971 has had no favourable effects on the dollar value and volume of Indian exports, both at the aggregate and disaggregate levels.

The paper is organised as follows: Section 2 gives a brief appraisal of trade policy; Section 3 discusses India's trade position vis-à-vis its competitors; Section 4 explains the measures of trade competitiveness; Section 5 attempts to find a relationship between exchange rate and measures of competitive indices; and Section 6 concludes the discussion.

2. TRADE POLICY: A BRIEF APPRAISAL

India's foreign trade policy over the last five decades may be broadly split into import-substitution policy, export-drive policy and export-acceleration policy. An import-substitution policy was followed in the first two decades; an export-drive policy was followed in the third and fourth decade; and an export-accelerating policy had been followed since the 1990s. The export-accelerating policy refers to India's transition to a globally oriented economy by stimulating exports and facilitating imports of essential inputs and capital goods. Initially, Indian exports were uncompetitive and performed poorly in the international market. Export promotion efforts were initiated in the late 1960s and 1970s through incentives and export services to improve the performance of exports on a sustained basis. Export incentives were introduced to enable exporters to overcome their 'disadvantages' against competitors in the world market. The main export incentives were cash compensatory support (CCS), import replenishment (REP), duty drawbacks (DDS), market development

assistance (MDA), etc. Export services introduced in the 1970s were, the creation of export promotion councils, commodity boards and specialised service institutions.

In 1973, industrial licencing policies were liberalised to allow firms to increase their authorised capacity for exports. In 1975–76, import policy was liberalised to allow imported inputs to registered exporters and actual users. Further liberalisation of imports took place in 1978–79. At the beginning of the 1980s, a major industrial policy shift allowed medium and larger firms to invest in industries reserved for the small-scale sector, if they agreed to export 75 per cent of their output.

In the mid-1980s, the Indian government adopted a long-term, three-year import-export policy (1985–88) for providing easy access to imports, essential for maximising production and exports. The main policy changes were: abolition of automatic licencing; inclusion of 201 items of industrial machinery in the list of capital goods allowed for import under open general licence [OGL]; decentralisation of 53 import items; allowing the import of capital goods against REP licences to small-scale industries and non-small-scale units; and increasing the minimum limit for the import of capital goods against REP licences from Rs 1 lakh to Rs 2 lakh for registered exporters, irrespective of their export performance. The policy was intended to provide a strong base for export promotion.

The second three-year policy (1989–91) carried forward the process of trade liberalisation to make exports more competitive. The policy was designed to stimulate industrial growth by providing easy access to essential imported capital goods, raw materials and components to industry and to sustain the movements towards modernisation, technological upgradation and making the industry competitive internationally. Further, the five-year export-import (EXIM) policy for 1992–97 was oriented towards stimulating exports and facilitating imports of essential inputs and capital goods. It aimed to phase out quantitative restrictions in the form of licencing and other discretionary controls. The main objectives of the policy were: to establish the framework for the globalisation of India's foreign trade; to promote productivity, modernisation and competitiveness of Indian industry; and to augment India's exports by facilitating access to raw materials, intermediaries, components, consumables and capital goods from international markets.

The second five-year export-import policy was announced in 31 March 1997, for 1997–2002. Its target was for India to have a 1 per cent share in world trade.

Trade policy reforms are aimed at creating an environment for a rapid increase in exports, raising India's share in world exports and making exports an

engine for higher economic growth. If the economy is to have sustained growth of over 20–25 per cent a year, its export should be considerably diversified and there should be a paradigm shift in export policy and procedures, and in related fields.

3. INDIA'S TRADE VIS-À-VIS ITS COMPETITORS

India's GDP growth rate during 1980–2000 at 6 per cent was lower than most other Asian countries (Table 1), but its export growth rate (8.5 per cent) was better than other Asian countries, except China (12.4 per cent), during 1995–2001 (Table 2). In 2003, China (34.5 per cent), South Korea (19.3 per cent) and Thailand (17.1 per cent) had higher export growth rates than India (15.8 per cent). India's export share in world export was lower than the other Asian countries, and the share of exports in its GDP was also low (Table 3). However, the share of India's exports in GDP has improved from 4 per cent in 1985–86 to 10 per cent in 2000–01 (Table 4).

Porter's (1990) analysis shows that a nation's competitiveness depends on the capacity of its industry to innovate and upgrade technology; management of exchange rates, interest rates and trade may not be able to promote national competitiveness. The only meaningful concept of competitiveness at the national level is productivity, that is, the value of output produced by a unit of labour or capital. Competitiveness at the national level is to understand the determinants of productivity and the rate of productivity growth. Again, the focus should be not on the economy as a whole but on specific industries and industry segments.

Table 1 Select Asian Economies: GDP Growth Trends, 1980–2000

Country	GDP Growth	Per capita GDP Growth
China	10.1	8.8
Korea, Republic of	7.7	6.6
Thailand	7.1	5.7
Singapore	6.9	5.1
Malaysia	6.0	3.5
India	6.0	4.1
Indonesia	5.7	3.9
Hong Kong	5.3	3.7

Source: Acharya (2002).

Table 2 Select Asian Countries: Export Growth and Share in World Exports

Country	Growth of Exports (%)			Share in World Exports				Value \$ Billion	
	1995–01	2002	2003	2004*	2001	2002	2003	2004*	2003
China	12.4	22.4	34.5	35.5	4.3	5.1	5.9	6.2	437.9
Hong Kong	3.6	5.4	11.9	16.5	3.1	3.1	3.0	2.9	224.0
Malaysia	6.6	6.0	6.5	26.9	1.4	1.5	1.3	1.4	99.4
Indonesia	5.7	3.0	5.1	-8.4	0.9	0.9	0.8	0.7	61.1
Singapore	4.1	2.8	15.2	25.3	2.0	1.9	1.9	2.0	144.2
Thailand	5.9	5.6	17.1	20.9	1.1	1.1	1.1	1.1	80.5
India	8.5	13.6	15.8	28.1	0.7	0.8	0.8	0.8	57.1
S. Korea	7.4	8.0	19.3	29.3	2.5	2.5	2.6	2.7	193.8
Developing Countries	7.9	7.9	18.4	27.0	36.8	37.9	38.7	40.2	2878.1
World	5.5	4.8	15.9	21.6	100.0	100.0	100.0	100.0	7439.1

Source: IMF (2002, 2004, 2005).

Note: *January–August 2004

Table 3 Select Asian Countries: Share of Exports in GDP

Country	1980	2000
China	6	22
S. Korea	34	36
Thailand	24	48
Indonesia	34	39
Malaysia	58	110
India	6	10

Source: World Bank (2001).

Table 4 India: Share of Foreign Trade in GDP

Year	Export as % of GDP	Import as % of GDP	Total Trade as % of GDP
1985–86	3.9	7.1	11.0
1990–91	5.7	7.6	13.3
1995–96	9.0	10.3	19.3
2000–01	10.1	11.6	21.8

Source: Government of India, Ministry of Finance, *Economic Survey*: 2003–04.

The four determinants of competitiveness in Porter's model of Diamond of National Competitive Advantage are:

- (i) *Factor conditions*: the nations' positions in factors of production such as skilled labour or infrastructure, necessary to compete in a given industry.
- (ii) *Demand conditions*: the nature of home market demand for the industry's product and services.
- (iii) *Related and supporting industries*: the presence or absence of supplier industries and other related industries that are internationally competitive.
- (iv) *Firm strategy, structure and rivalry*: conditions in the nation governing how companies are created, organised and managed, and the nature of domestic rivalry.

3.1 Factor Conditions

Contrary to classical economics thinking where nations inherit factors of production, with the sophisticated industries that form the backbone of an advanced economy, a nation creates its most important factors of production such as skilled human resources or a scientific base. Moreover, the stock of factors at a particular time is less important than the rate and efficiency with which a country creates, upgrades and deploys them in particular industries.

3.2 Demand Conditions

Nations have a competitive advantage in industries where domestic demand gives their companies a clearer or earlier picture of emerging buyer needs and where demanding buyers pressure companies to innovate faster and achieve more sophisticated competitive advantages than foreign rivals. Sophisticated, competitive, home-based suppliers create advantages in down-stream industries in several ways. They deliver the most cost-effective inputs in an efficient, early, rapid way. Companies have the opportunity to influence their suppliers' technical efforts and can serve as sites for research and development (R&D) work, accelerating the pace of innovation. Companies benefit most when suppliers are global competitors.

3.3 Firm Strategy, Structure and Rivalry

Domestic rivalry creates pressure on companies to innovate and improve. Local rivals propel each other to lower costs, improve quality and services, and create new products and processes. When there are economies of scale, local

competitors force each other to look outward to foreign markets to capture greater efficiency and higher profitability.

4. MEASURES OF TRADE COMPETITIVENESS

Competitiveness may be defined as advantages in price, quality, product design, reliability, salesmanship, delivery times, after-sales service, etc. While elements of non-price competitiveness have an important effect on the volume of trade, this article concentrates on price competitiveness. Non-price competitiveness is intangible and difficult to measure, and there is no single comprehensive index to measure it, because of the variety of contributing factors.

There are, however, several indices to measure price competitiveness:

- (i) *REP: The Relative Export Price Index*: the ratio of the unit value index of Indian exports to a weighted average of unit price index of exports of its competitors.
- (ii) *WPI: The Relative Wholesale Price Index*: India's wholesale price index divided by a weighted average of the indices of its competitors' wholesale prices, which is a useful proxy for domestic costs.
- (iii) *PEI: The Profitability of Exports Index*: the ratio of India's export unit value to its wholesale price index. The assumption behind this measure is that higher export prices relative to wholesale prices mean that producers are more likely to export rather than sell in the domestic market. This measure suffers from the drawback that wholesale prices refer to current production while export prices are at the customs post and thus, refer to production at some time in the past. The wholesale price index incorporates some indirect taxes and is generally considered a poor proxy for the incentive to produce for the domestic market. Nevertheless, this index of competitiveness is attractive since data are readily available and no information on other countries is needed.
- (iv) *RPE: The Relative Profitability of Exports Index*: the profitability index of India divided by weighted profitability index of her competitors.
- (v) *IPC: The Index of Import Price Competitiveness*: India's wholesale price index divided by its unit value index of imports. This index measures the competitiveness of import substitutes.

While constructing the index of relative export prices, we have used the unit value index of overall exports of India. The measure would have been more meaningful if it were confined to only exports of manufacturing goods, but the

unit value index of exports of manufacturing goods are not readily available separately for developing countries. India's main competitors that considered in this article are Indonesia, South Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, Thailand and Kenya. India's major export marketing centres are the United States (US), Japan, France, West Germany and the United Kingdom (UK).

The weight given to each competitor of India for averaging purposes was calculated from the formulae:

$$W_j = \sum_k X_{ik} / 100 \times Y_{jk} / 100$$

where, W_j is the weight of the j th country; X_{ik} is the export share of India to the k th country; Y_{jk} is the export share of the j th country to the k th country in the total exports of all countries; i is India; j is India's main competitors; and k is India's major export marketing centres.

The weight given to each competitor reflects the relative importance of that country in India's overseas markets weighted by the importance of the market to India. The weights assigned to each competitor are given in the Appendix, Table A1. Data for the study is from IMF, *International Financial Statistics*, Annual (1998–2004). The five indices of trade competitiveness for India are presented in Table 5 and Figures 1 to 5.

The REP index of India below 100 indicates a higher competitiveness of India's exports compared to its competitors and an index above 100 indicates a lower competitiveness of exports. Thus, India's exports were more competitive till 1992, after which they have been losing competitiveness (Table 5 and Figure 2). Competitiveness of Indian exports did not improve in the post-liberalisation period.

A relative WPI of India below 100 indicates its greater competitiveness in the domestic cost of export production and above 100 indicates lower competitiveness. Here we have taken the wholesale price index as a proxy for the domestic cost of production of exports. The finding was that India's domestic cost of total production was competitive throughout the period under study, except in 1996 and 1997 (Table 5 and Figure 2).

A PEI of above 100 indicates higher profitability and below 100 indicates lower profitability. Indian exports remained relatively less profitable till 1988, after which exports have been profitable for India, especially in the post-reform period except in 1996, 1999 and 2003 (Table 5 and Figure 3).

Table 5 Measures of India's Trade Competitiveness

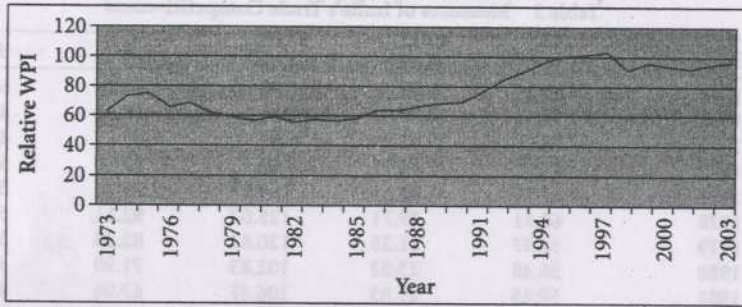
Year	WPI	REP	IPC	PEI	RPE
1973	62.45	40.32	87.80	67.90	64.57
1974	73.41	30.02	104.63	62.20	40.90
1975	74.98	36.99	156.97	73.73	49.34
1976	65.66	36.79	166.96	80.18	56.03
1977	67.99	35.61	159.67	78.60	52.37
1978	62.11	39.71	128.07	92.11	63.94
1979	58.97	31.25	120.84	82.35	52.99
1980	56.48	23.62	102.83	71.90	41.82
1981	59.45	25.85	106.47	67.06	43.49
1982	54.96	29.14	97.11	74.07	53.02
1983	57.13	31.05	98.68	71.24	54.35
1984	56.09	35.55	84.13	76.54	63.38
1985	57.85	43.38	102.45	82.55	74.99
1986	63.56	51.70	107.83	78.13	81.34
1987	64.14	52.01	90.74	77.24	81.09
1988	66.70	66.33	118.64	92.13	99.44
1989	68.65	80.69	150.12	102.52	117.54
1990	69.62	72.21	89.88	100.66	103.72
1991	76.39	88.33	100.69	110.47	115.64
1992	84.52	98.82	105.47	112.99	116.91
1993	90.26	109.53	103.20	118.50	121.35
1994	96.18	110.67	100.27	111.48	115.06
1995	100.00	100.00	100.00	100.00	100.00
1996	101.69	104.69	109.03	98.21	102.95
1997	102.77	121.96	102.34	109.52	118.68
1998	91.22	120.40	95.10	104.11	132.00
1999	96.04	131.92	108.11	99.76	137.35
2000	94.02	120.20	112.00	100.50	110.00
2001	92.03	115.22	96.02	120.10	120.00
2002	95.07	118.00	95.03	115.00	115.50
2003	97.03	122.50	112.10	98.00	99.00

Source: Estimated.

A RPE index of above 100 indicates that India's profitability is better than its competitors'. India's export profitability compared to its competitors improved considerably in the post-liberalisation period (Table 5 and Figure 5).

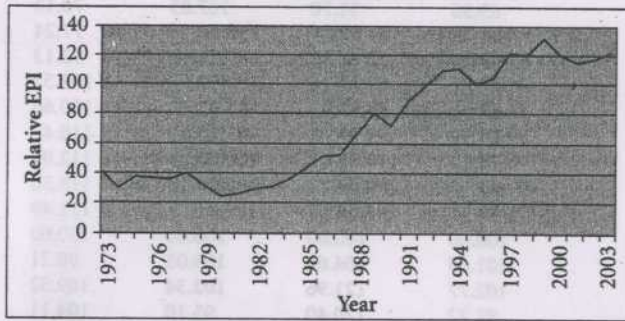
An index of IPC below 100 indicates greater competitiveness of imports and above 100 indicates lower competitiveness. India's imports were more competitive in 1973, 1982–84, 1987, 1990, 1998, 2001 and 2002 (Table 5 and Figure 3).

Figure 1
Relative Wholesale Price Index



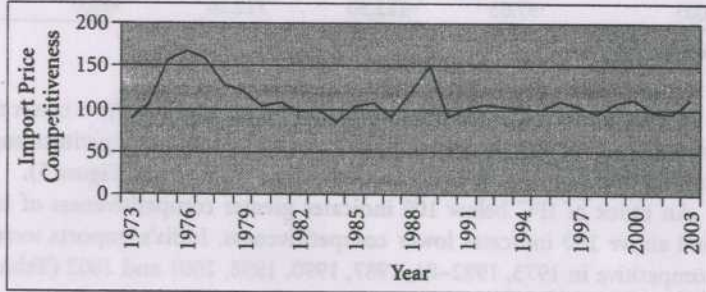
Source: Estimated from Table 8.

Figure 2
Relative Export Price Index



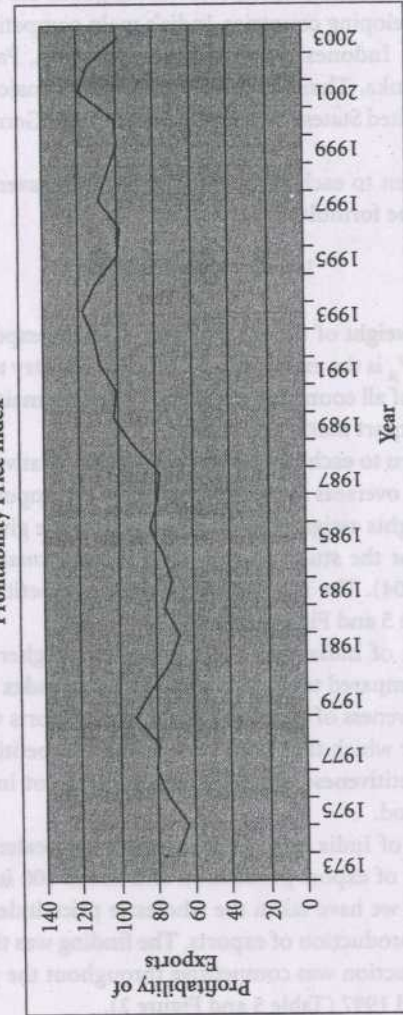
Source: Estimated from Table 8.

Figure 3
Import Price Competitiveness



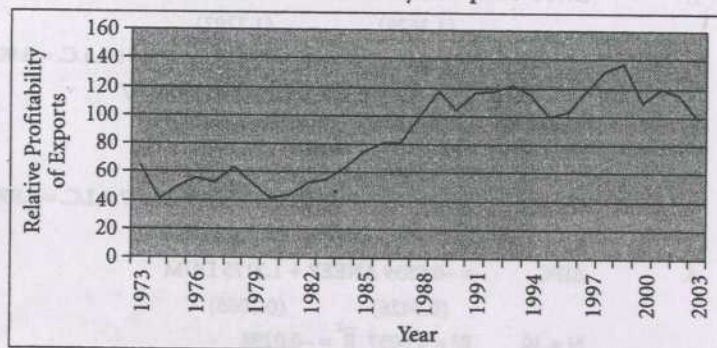
Source: Estimated from Table 8.

Figure 4
Profitability Price Index



Source: Estimated from Table 8.

Figure 5
Relative Profitability of Exports



Source: Estimated from Table 8.

5. TRADE COMPETITIVENESS AND EXCHANGE RATE POLICY OF INDIA

Regression analysis was carried out to examine the impact of the exchange rate of the rupee on India's trade competitiveness. Each measure of trade competitiveness mentioned earlier was regressed on the nominal effective exchange rate (NEER) and real effective exchange rate (REER). The NEER represents the price of a representative basket of foreign currencies, each weighted by its importance to India in international trade. The REER takes into account the effect of relative price changes on the NEER. The NEER and REER of the rupee for the period 1973–2003 are given in Table 6 and Figures 6 and 7. A dummy variable is used in the regression to understand the impact of liberalisation policies initiated in 1991.

Variables in first differences are used to estimate the model. The results of the regression analysis are presented in Tables 7 and 8. It can be seen in Table 7 that the NEER has significant impact on the WPI, REP index, RPE index and PEI. The results indicate that when NEER appreciates, wholesale and export price competitiveness (WPI and REP) improve, whereas profitability (RPE and PEI) deteriorates. However, the NEER has no significant impact on the index of IPC. In all cases, the dummy variable was not significant.

It can be seen in Table 8 that the REER has no significant impact on WPI, but has a significant impact on the REP index, PEI and RPE index. The results indicate that when the REER appreciates, export price competitiveness (REP)

Table 6 India: Nominal Effective Exchange Rate (NEER) and Real Effective Exchange Rate (REER)

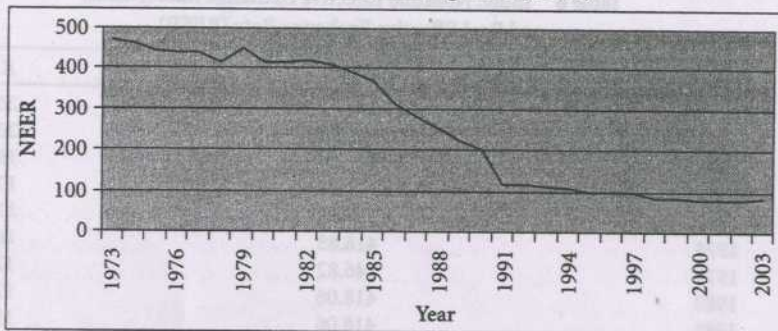
Year	NEER	REER
1973	472.13	202.43
1974	461.63	208.56
1975	442.36	192.72
1976	437.83	173.92
1977	437.09	174.91
1978	416.83	160.41
1979	446.82	175.30
1980	418.06	174.69
1981	418.06	182.49
1982	420.85	178.81
1983	412.15	184.40
1984	391.01	182.81
1985	368.39	179.19
1986	313.27	165.84
1987	280.86	157.67
1988	251.78	149.85
1989	224.84	137.02
1990	200.74	129.15
1991	118.65	108.05
1992	115.77	98.03
1993	112.95	97.47
1994	108.96	103.25
1995	100.00	100.00
1996	98.06	110.27
1997	97.42	112.53
1998	86.13	114.84
1999	84.84	103.04
2000	81.40	101.06
2001	80.35	99.04
2002	79.51	103.34
2003	86.40	105.83

Source: Government of India, Ministry of Finance, *Economic Survey*, various years.

Note: An increase (decrease) in the index indicates an appreciation (depreciation) of the Indian rupee.

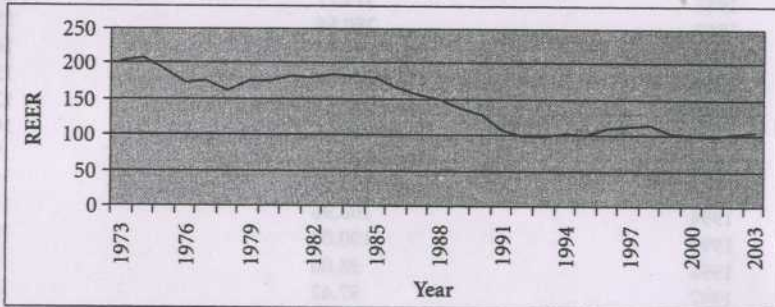
improves, but profitability (RPE and PEI) deteriorates. However, the REER has no significant effect on IPC. The significance of the dummy variable in the case of the WPI and REP index indicates that the REER has had an impact on trade competitiveness during the post-liberalisation period.

Figure 6
Nominal Effective Exchange Rate (NEER)



Source: Estimated from Table 8.

Figure 7
Real Effective Exchange Rate (REER)



Source: Estimated from Table 8.

6. CONCLUSION

The central government has made serious efforts to reform trade policies to make exports more competitive globally. This article attempts to measure India's trade competitiveness and to examine the effectiveness of exchange rate policy on trade competitiveness. The results indicate that when the nominal and real exchange rates appreciate, export price competitiveness (REP) improves, but the competitiveness of profitability (RPE and PEI) deteriorates.

Table 7 Nominal Effective Exchange Rate and Trade Competitiveness, 1973–2003

1.	ΔWPI	$= -0.0510 \Delta NEER^{***} + 1.66033 DUM$
		(1.3629) (1.2292)
	N = 30,	$R^2 = 0.0868 \bar{R}^2 = 0.05419 D.W. = 1.9581 A.I.C. = 6.0073$
		Schwarz creation = 6.1007
2.	ΔREP	$= -0.1430 \Delta NEER^{**} + 1.6603 DUM$
		(-2.3319) (1.1786)
	N = 30,	$R^2 = 0.1497 \bar{R}^2 = 0.1193 D.W. = 2.1097 A.I.C. = 6.9969$
		Schwarz creation = 7.0903
3.	ΔIPC	$= -0.0559 \Delta NEER + 1.2175 DUM$
		(0.3426) (0.2066)
	N = 30,	$R^2 = 0.0057 \bar{R}^2 = -0.0298$
		D.W. = 2.0514 A.I.C. = 8.9540
		Schwarz creation = 9.0474
4.	ΔPEI	$= -0.1159 \Delta NEER^{**} - 1.2236 DUM$
		(-1.7012) (-0.4973)
	N = 30,	$R^2 = 0.0868 \bar{R}^2 = 0.05419 D.W. = 1.9581 A.I.C. = 6.0073$
		Schwarz creation = 6.1007
5.	ΔRPE	$= -0.1709 \Delta NEER^{***} - 1.8659$
		(-1.8433) (-0.5572)
	N = 30,	$R^2 = 0.1003 \bar{R}^2 = 0.0681 D.W. = 1.9421 A.I.C. = 7.8233$
		Schwarz creation = 7.9168

Note: ** 5% level of significance; and *** 10% level of significance.

Table 8 Real Effective Exchange Rate and Trade Competitiveness, 1973–2003

1.	ΔWPI	$= -0.0082 \Delta REER + 2.0938 DUM^{***}$
		(-0.0851) (1.5355)
	N = 30,	$R^2 = 0.0265 \bar{R}^2 = -0.0083 D.W. = 1.7307 A.I.C. = 6.071229$
		Schwarz creation = 6.1646
2.	ΔREP	$= -0.4016 \Delta REER^* + 3.1481 DUM^{***}$
		(-2.6960) (1.4926)
	N = 30,	$R^2 = 0.1938 \bar{R}^2 = 0.1650 D.W. = 1.9610 A.I.C. = 6.9436$
		Schwarz creation = 7.0370

(Table 8 continued)

(Table 8 continued)

3.	AIPC	= -0.3477 Δ REER + 1.0855 DUM (-0.0864) (0.1904)
	N = 30,	R ² = 0.0274 \bar{R}^2 = -0.0073 D.W. = 2.1060 A.I.C. = 8.9320
		Schwarz creation = 9.0254
4.	APFI	= -0.4898* Δ REER - 1.0832 DUM (-3.2100) (-0.5013)
	N = 30,	R ² = 0.2594 \bar{R}^2 = 0.2330 D.W. = 1.8876 A.I.C. = 6.9918
		Schwarz creation = 7.0852
5.	Δ RPE	= -0.5491* Δ REER - 1.3481 DUM (-2.4757) (-0.4292)
	N = 30,	R ² = 0.1723 \bar{R}^2 = 0.1428 D.W. = 1.8042 A.I.C. = 7.7399
		Schwarz creation = 1.8042

Notes: * 1% level of significance; and *** 10% level of significance.

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APPENDIX

Table A1 Estimated Weights Assigned to Each Competitor

Year	Indonesia	South Korea	Malaysia	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Kenya
1973	8.4952	8.0800	7.6524	1.6970	5.5946	5.4196	0.9795	2.2998	1.4676
1974	9.6010	6.7420	7.0421	1.4585	4.4245	4.1510	0.9623	2.0969	1.3798
1975	9.4593	6.8799	5.7498	1.3560	4.4904	3.5504	0.8270	2.1500	1.1513
1976	10.0419	8.8758	6.6126	1.1088	3.4422	3.8332	0.7359	2.3450	1.3178
1977	9.7587	8.7732	6.8771	1.0068	3.4699	3.5701	0.8423	2.3450	2.4269
1978	9.6190	9.9598	6.5009	1.0017	3.6379	3.7163	0.6024	2.2382	1.4613
1979	9.7301	9.4065	7.2857	1.0782	3.8909	4.1271	0.6142	2.7362	1.7610
1980	9.6854	7.0915	5.6317	0.8448	3.2800	4.3363	0.5372	2.3357	0.9106
1981	8.9963	7.4042	4.3152	0.7847	4.9840	3.7886	0.4291	2.1541	0.7224
1982	10.3185	10.2604	5.7068	1.1041	3.9642	5.4610	0.5768	3.3474	0.8388
1983	11.7318	11.6739	5.6292	0.8427	3.8997	5.7870	0.4866	2.7822	0.6774
1984	10.4252	12.8757	6.4835	0.6336	4.0282	6.5052	0.6624	2.8918	0.9101
1985	10.0544	13.7737	6.3070	0.8930	3.6247	6.3798	0.6100	3.0799	0.8011
1986	10.0877	14.8546	6.9740	0.6219	3.8455	6.9485	0.6542	3.1245	0.8521
1987	11.0023	15.5472	7.2769	0.5514	3.9432	7.1215	0.7814	3.3458	0.8918
1988	12.0432	15.8932	8.4675	0.7627	4.2122	8.5431	0.9432	4.5678	0.8518
1989	12.8404	16.3245	9.5413	0.6943	5.6912	8.5431	1.3484	6.5194	0.9431
1990	6.9719	16.1803	6.9661	1.4699	3.1408	9.3452	0.7447	6.1517	0.4806

(Table A1 continued)