COMPETITIVENESS OF INDIA'S MANUFACTURED EXPORTS: A CONSTANT MARKET SHARE ANALYSIS

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Abstract

In this study, an attempt has been made to examine the international competitiveness of India's manufactured exports. The paper analyses India's export competitiveness by Constant Market Share (CMS) model attributable to commodity composition effect, market distribution effect, world trade effect and competitiveness effect. The paper found that manufactured sector of India remained competitive and non-manufactured exports might have been uncompetitive, rendering the competitiveness effect to the unfavorable during the period 1990-2000 and during 1990-2005 for total exports. The competitiveness effect was found to be unfavorable for chemical during the second and third sub-period and for machinery & transport equipment during the first and second sub-period.

INTRODUCTION

Competitiveness is a hotly-debated topic among economists. There has been increasing worldwide awareness among economists to improve competitiveness at global level. Competitiveness may be defined as the ability of a country to improve its sales in international and national markets at the expense of its competitors. A country's competitiveness must be judged not only against its performance in the world market but also in terms of its capacity to sustain economic growth over a period of time.

Manufactured exports have been recognised as an engine of growth of an economy. Manufactured exports of India have been increasing since 1980s with the opening up of the economy and dominate nearly 70 per cent of the total merchandise exports. Manufactured exports of India consist of four sub-sections-chemicals, basic manufactured goods, machinery & transport equipments and miscellaneous manufactured goods. Considering the rapid development of manufactured exports, paper seeks to measure competitiveness of manufactured exports and reasons for growth of manufactured exports by applying constant market share analysis. Accordingly the paper has been divided into three sections. Section I discusses

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data base and methodology, section II analysis trends in competitiveness of manufactured exports at disaggregated level, while section III examines growth of manufactured exports by applying constant market share technique.

I

To measure competitiveness of manufactured exports, various measures like composition and market share of manufactured exports, compound annual growth rates, revealed comparative advantage index and constant-market-share model have been used. Data at one digit level of SITC classification for total exports, total manufactured exports and sub sections namely chemicals, basic manufactured goods, machinery & transport equipments and miscellaneous manufactured goods have been collected from various issues of *Unctad Handbook of Statistics*, *UN Tradecom.*

GROWTH RATES

To analyse the competitiveness of Indian manufactured exports at disaggregate level compound annual growth rates have been worked out for the three periods of time i.e. 1980-90 (pre-reform period), 1992-2005 (post-reform period) and 1980-2005 (whole period). The positive and increasing value of growth rates shows increase in competitiveness, while the negative and decreasing value of growth rates shows decrease in competitiveness. Compound annual growth rates have been calculated by using following formula:

$$Y = AB^t$$

Where Y = value of exports of commodity

Growth rate $= (\hat{B} - 1) \times 100$

t = time period

REVEALED COMPARATIVE ADVANTAGE INDEX (RCAI)

Revealed Comparative Advantage Index (RCAI) is one of the most applied tools to measure the export competitiveness of a manufacturing sector. Developed by Balassa (1965, 1979), the RCAI is defined as a ratio of the share of particular industry (or product) in a country's total exports to the share of the industry's exports in world's total exports. Thus, the $(RCAI^i)_a$ can be presented as:

$$(RCAI^i)_a = (X_a^i / X_t^i) / (X_a^w / X_t^w)$$

Where

X_a^i = value of exports of commodity a by country i

X_t^i = value of total exports by country i

X_a^w = value of world exports of commodity a

X_t^w = value of total world exports

A country has a revealed comparative advantage only in those products for which its market share of world exports is above its average share of world exports, i.e., if RCAI is greater than one. If RCAI is less than unity, the country is said to have a comparative disadvantage in the commodity / industry (Mahmood A. 2000).

CONSTANT MARKET SHARE MODEL

The constant-market-share analysis (henceforth CMS) model has been used to examine competitiveness of India's manufactured exports. The analysis has been divided into three periods of time (i) 1980-1990, (ii) 1990-2000 and (iii) 1990-2005.

To analysis manufactured export growth of a country, the constant market share model (CMS) has first been applied by Tysznski (1951). This model decomposes actual gain or loss in country's manufactured exports into four components:

I.   World Trade Effect = $\left(\sum_{i=1}^{n} rX_i \right)$

II. Commodity Composition Effect = $\sum_{i=1}^{n} (r_i X_i - rX_i)$

III. Market Distribution Effect = $\left[\sum_{i=1}^{n}\sum_{j=1}^{m} r_{ij} X_{ij} - \sum_{i=1}^{n} r_i X_i \right]$

IV. Competitiveness Effect = $\left[\sum (X_i^1 - X_i^0) - \sum_{i=1}^{n}\sum_{j=1}^{m} r_{ij} X_{ij} \right]$

The total change, Δx, in exports is given by

$$\Delta X = \sum (X_i^1 - X_i^0)$$

This can be written as:

$$\Delta X = r\sum_{i=1}^{n} X_i + \sum_{i=1}^{n}(r_i X_i - rX_i) + \sum_{i=1}^{n}\sum_{j=1}^{m} r_{ij} X_{ij} - \sum_{i=1}^{n} r_i X_i + \left[\sum (X_i^1 - X_i^0) - \sum_{i=1}^{n}\sum_{j=1}^{m} r_{ij} X_{ij} \right]$$

Where,

X_{ij}^0 = the value of Indian's export of commodity i to market j in base year, (i = 1… n; j = 1… m);

X_{ij}^1 = the value of Indian's export of commodity i to market j in terminal year, (i = 1, …… n; j = 1, …… m);

X_i^0, X_i^1 = Total export of ith commodity in the base year and terminal year respectively;

r   = Percentage change in total world export;

r_i = percentage change in world exports of the ith commodity;

r_{ij} = percentage change in world exports of the ith commodity to the jth market.

World Trade Effect = $\left(\sum\limits_{i=1}^{n} rX_i \right)$

where, 'X_i' is the export of ith commodity group of a focus country at the base year, 'r' is the percentage increase of total world exports between two points of time, and 'n' represents the number of export items

Commodity Composition Effect = $\sum\limits_{i=1}^{n}(r_iX_i - rX_i)$

In the second stage, the export growth of the *reference* country is decomposed into the *commodity composition effect*, which is described in the following form:

$$\sum_{i=1}^{n}(r_i X_i - rX_i)$$

where, r_i is the percentage increase of world export of the commodity group i, between two time periods. If an increase of exports by a country is more than the world average in the similar commodity classes, the sign of commodity composition would be positive and vice versa. A positive sign indicates that the export country had concentrated on export commodities whose markets were growing relatively fast.

Market Distribution Effect = $\left[\sum\limits_{i=1}^{n}\sum\limits_{j=1}^{m} r_{ij}X_{ij} - \sum\limits_{i=1}^{n} r_iX_i \right]$

In the third stage, the export growth of the country is then disaggregated into the *market distribution effect,* defined as:

$$\left[\sum_{i=1}^{n}\sum_{j=1}^{m} r_{ij}X_{ij} - \sum_{i=1}^{n} r_iX_i \right]$$

where, r_{ij} is the percentage increase of the world export of the commodity group i in the jth market between two points of time. The number of foreign markets is denoted by 'm'. A positive sign indicates the ability of the *reference* country to increase its exports of similar commodity classes in the relatively growing markets. A negative sign suggests that the exports are concentrated in relatively stagnant markets.

Competitiveness Effect = $\left[\sum (X_i^1 - X_i^0) - \sum_{i=1}^{n} \sum_{j=1}^{m} r_{ij} X_{ij} \right]$

At the final stage the residual, competitiveness effect is derived. A negative sign means that the country fails to maintain its market share because of a lack of competitiveness. This residual term indicates the improvement or deterioration in overall export competitiveness. It is possible that the Competitiveness Effect may provide a biased measure of general competitiveness. For example, in a fast growing export market the country may experience a declining share even with rising exports if it cannot cope with export growth in the market. The net effect will be reflected in the negative sign of the competitiveness effect because of a favourable market and commodity growth (Ray, Dilip Kumar, 1991; Muhammad, Akbar, 2000; kellman, 2003).

II

GROWTH PERFORMANCE OF MANUFACTURED EXPORTS AND COMPETITIVENESS

Competitiveness has been measured in terms of growth performance of manufactured exports at constant prices.

Table 1 shows period-wise analysis of the manufactured exports. Table shows that for the whole period (1980-2005), exports of total manufactures at constant prices increased only at the rate of 2.27 per cent per annum due to negative growth rate during the pre-reform period. Highest growth rate was experienced by 'Chemicals' (9.03 per cent) followed by 'Machinery & Transport Equipments' (4.24 per cent), 'Miscellaneous Manufactured Goods' (3.49 per cent) and 'Basic Manufactured Goods' (1.91 per cent).

During the period 1980-1990 (pre-reform period), exports of total manufactured goods experienced negative growth rate (-0.10) due to negative growth experienced by 'Basic Manufactured Goods'. Exports of 'Chemicals' section experienced highest growth rate (6.88 per cent) followed by exports of 'Machinery & Transport Equipments' (3.43 per cent) and the exports of Miscellaneous Manufactured Goods (1.03 per cent).

During the period 1992-2005 (post-reform period), export of total manufactures increased at the rate of 5.36 per cent per annum .Again highest growth was experienced by 'Chemicals' section (14.20 per cent) followed by 'Machinery & Transport Equipment' (8.02 per cent), 'Miscellaneous Manufactured Goods' exports (7.90 per cent) and 'Basic Manufactured Goods' (5.38 per cent).

Thus as compared to 1980-90, all the considered manufacturing sections experienced increase in growth rates during 1992-2005 indicating improvement in competitiveness. However, section 'Chemicals' experienced significant increase in competitiveness (as growth rate increased from 6.88 per cent during 1980-1990 to 14.20 per cent during 1992-2005) followed by 'Miscellaneous Manufactured Goods'

Table 1
Competitiveness of Manufactured Exports in Terms of Growth rates (At Constant Prices)

S. No.	Sections	Exports ($000) Year				Period					
						1980-90		1992-2005		1980-2005	
		1980	1990	1992	2005	Growth Rate	T value	Growth Rate	T value	Growth Rate	T value
	Total Manufactured Exports	20069126	17890708	17823649	36526226	-0.10	-0.06	5.36	4.67	2.27	4.74
5	Chemicals	1124257	2459772	1445063	10138969	6.88	2.682	14.2	14.44	9.03	12.43
6	Basic Manufactured Exports	11650405	9550387	9838029	10138969	-0.14	-0.13	5.38	4.48	1.91	3.64
7	Machinery & Transport Equipment	2073050	2218443	1576957	5873199	3.42	1.61	8.02	4.47	4.24	5.82
8	Miscellaneous Manufactured Goods	5831844	5842229	4836849	12302823	1.03	1.01	7.9	7.27	3.49	6.22

(growth rate increased from 1.03 per cent during 1980-1990 to 7.27 per cent during 1992-2005), 'Basic Manufactures' (growth rate increased from -0.14 per cent during 1980-1990 to 5.38 per cent during 1992-2005) and 'Machinery & Transport Equipments' (as growth rate increased from 3.42 per cent during 1980-1990 to 8.02 per cent during 1992-2005) indicating these to be competitive.

MARKET SHARE, COMPOSITION AND REVEALED COMPARATIVE ADVANTAGE OF MANUFACTURED EXPORTS AND COMPETITIVENESS

(a) Market Share

Share of country's exports in world exports (Market Share) has been considered as an indicator of an economy's export competitiveness. An increase in market share indicates increase in competitiveness, while a decrease in market share indicates decrease in competitiveness.

Table 2 shows that market share of manufactured exports of India stood at 0.38 per cent in world manufactured exports in 1980. However, market share of manufactures has been continuously increasing (share increased from 0.38 per cent in 1980 to 1.06 per cent in 2005) indicating increase in competitiveness.

Section-wise analysis shows that in 1980, market share was found to be highest for 'Basic Manufactures' (0.72 per cent) followed by 'Miscellaneous Manufactured Goods' (0.54 per cent), 'Chemicals' (0.22 per cent) and 'Machinery & Transport Equipment' (0.12 per cent).

In 1985, 'Basic Manufactures' and 'Miscellaneous Manufactured Goods' experienced increase in competitiveness (as share increased from 0.72 per cent and 0.54 per cent in 1980 to 0.99 per cent and 0.67 per cent in 1985). In 1990, share of 'Basic Manufactures' and 'Miscellaneous Manufactured Goods' further increased to 1.21 per cent and 0.79 per cent indicating improvement in competitiveness. 'Chemicals' section also experienced improvement in competitiveness with increase in share from 0.21 per cent in 1985 to 0.44 per cent in 1990. Share of 'Chemicals', 'Basic Manufactured Goods' and 'Miscellaneous Manufactured Goods' increased to 0.54 per cent, 1.52 per cent and 0.98 per cent respectively in 1995 and further increased to 0.84 per cent, 2.04 per cent and 1.21 per cent respectively in 2000 indicating increase in competitiveness.

In 2005, share was found to be highest for 'Basic Manufactured Goods' (2.63 per cent) followed by 'Miscellaneous Manufactured Goods' (1.53 per cent), 'Chemicals' (1.48 per cent) and 'Machinery & Transport Equipment' (0.30 per cent).

Thus as compared to 1980, all the considered sections experienced increase market shares indicating increase in competitiveness. However, competitiveness increased significantly in case of 'Basic Manufactured Goods' (as share increased from 0.72 per cent in 1980 to 2.63 per cent) followed by 'Chemicals' (share increased from 0.22 per cent in 1980 to 1.48 per cent in 2005), 'Miscellaneous Manufactured Goods' (share increased from 0.54 per cent in 1980 to 1.53 per cent in 2005). Though

market share of 'Machinery & Transport Equipment' increased from 0.12 per cent in 1980 to 0.30 per cent in 2005, but it is still negligible. As, the world market in this commodity is dominated by the developed countries of the world. In the context of price, quality, aftersale service and credit facilities, the world markets are highly competitive. In this respect, it is tremendously difficult for India to compete with the giant producers with well established trade connections throughout the world. (Mathur, Vibha, 2003).

Table 2
Competitiveness of Manufactured Exports in Terms of India's
Share in World Exports

						(Per cent)
Sections/Year	*1980*	*1985*	*1990*	*1995*	*2000*	*2005*
Total Manufactured Exports	0.38	0.42	0.51	0.61	0.74	1.06
5 Chemicals	0.22	0.21	0.44	0.54	0.84	1.48
6 Basic Manufactured Exports	0.72	0.99	1.21	1.52	2.04	2.63
7 Machinery and Transport Equip.	0.12	0.10	0.11	0.12	0.14	0.30
8 Miscellanous Manufactured Goods	0.54	0.67	0.79	0.98	1.21	1.53

Source: UN Comtrade Database http://www.uncomtrade.com, UNCTAD Handbook of Statistics, UN

(b) Composition of Manufactured Exports

Competitiveness may also be measured in terms of share of different sections and product groups in India's exports. Increase in share of a section in exports indicates increase in competitiveness, while decrease in share of a section or product group in exports indicates decline in competitiveness.

Table 3 shows that exports Manufactured Goods experienced increased in competitiveness as share increased from 58.88 per cent in 1980 to 82.6 per cent in 2000 but decreased to 71.6 per cent in 2005. Section-wise analysis shows that in 1980, maximum share of 34.04 per cent was of section 'Basic Manufactures' followed by 'Miscellaneous Manufactures' (12.4 per cent) and 'Machinery & Transport Equipment' (8.26 per cent).

In 1985, the shares of Miscellaneous Manufactured increased and of Basic Manufactures remained constant. The shares of other sections decreased.

In 1990, competitiveness of 'Miscellaneous Manufactured' and 'Chemicals' improved (with the increase in share from 14.37 per cent and 3.62 per cent in 1985 to 18.24 per cent and 7.4 per cent respectively in 1990). In 1995, 'Basic manufactured Goods' experienced increase in competitiveness. In 2000, 'Chemicals', 'Basic Manufactures' and 'Miscellaneous Manufactured Goods' experienced some increase in competitiveness with increase in share from 8.09 per cent, 39.1 per cent and 19.1 per cent in 1995 to 11.13 per cent, 41.35 per cent and 21.69 per cent in 2000.

Table 3
Composition of Manufactured Exports of India and the World and Revealed Comparative Advantage of India in Manufactured Exports

S.N/Sections	Composition of India's Exports						Composition of World Exports						Revealed Comparative advantage					
	1980	1985	1990	1995	2000	2005	1980	1985	1990	1995	2000	2005	1980	1985	1990	1995	2000	2005
5 Chemicals	3.67	3.56	7.39	8.09	11.13	11.6	7.04	7.89	9.2	9.62	9.09	7.99	0.52	0.45	0.8	0.84	1.22	1.45
6 Basic Manufactures	34.02	33.5	37.2	39.1	41.35	32.9	17.89	16.25	16.96	16.77	14.02	12.97	1.90	2.06	2.19	2.32	2.95	2.54
7 Machinery & Transport Equipments	8.26	6.35	7.41	7.48	8.42	10.9	25.68	31.13	36.6	38.97	40.41	36.76	0.32	0.20	0.20	0.19	0.21	0.30
8 Miscellaneous Manufactures	12.39	14.13	18.21	19.1	21.69	16.3	8.72	10.05	12.6	12.6	12.34	10.92	1.42	1.41	1.44	1.51	1.76	1.49
Total Manufactures Exports	58.88	57.54	70.21	73.7	82.6	71.6	59.33	65.32	75.36	77.96	75.86	68.64	0.99	0.88	0.93	0.94	1.09	104

Source: UN Comtrade Database http://www.uncomtrade.com, UNCTAD Handbook of Statistics, UN

In 2005, 'Machines & Transport' became more competitive, (with the increase in share from7.9 per cent in 2000 to 10.85 in 2005), while 'Basic Manufactures' and 'Miscellaneous Manufactured' became less competitive.

During the period 1980-2005, the export shares of 'Chemicals related Products', 'Machines and Transport Equipments', and 'Misc. Manufactured' increased, indicating increase in competitiveness in these sections. India has always remained competitive in section 'Basic Manufactures' followed by 'Miscellaneous Manufactured Goods' during the period 1980 to 2005.

(c) Revealed Comparative Advantage

Revealed Comparative Advantage Index (RCAI) is one of the most applied tools to measure the export competitiveness of a manufacturing sector.

Previously export competitiveness has been only measured in terms of composition of export in India, but while comparing export competitiveness at home vis-à-vis world measured in terms of revealed comparative advantage, Table 3 shows that India attained comparative advantage in total manufactured exports after 1995. India had competitive advantage only in 'Basic Manufactures' and 'Miscellaneous Manufactures' in 1980, 1985 and 1995. Comparative advantage was found to be highest in Basic manufactured Goods in all the years and RCA has been continuously increasing from 1.90 in 1980 to 2.32 in 1995). In 2000, India had comparative advantage in three sections namely 'Basic Manufactured Goods' (RCA = 2.95), 'Miscellaneous Manufactures' (RCA = 1.76) and 'Chemicals' (RCA = 1.22). In 2005, comparative advantage was found to be highest in 'Basic Manufactured Goods' (RCA = 2.54) followed by 'Miscellaneous Manufactured Goods' (RCA = 1.49) and Chemicals (RCA = 1.45).

During 1980-2005, there was a positive shift in RCA in total manufactured exports and section 'Chemicals'. This is due to increase in export share of India at home relative to world. India also experienced increase in competitiveness in case of 'Basic Manufactured Goods'. India could not attain competitiveness in Machinery & Transport Equipment'.

III

CONSTANT MARKET SHARE ANALYSIS OF INDIA'S MANUFACTURED EXPORTS TO WORLD

Table 4 shows the change in India's total exports, manufactured export and its components (Chemicals, Basic Manufactures, Machinery & Transport Equipments and Miscellaneous Manufactured Goods) to world due to world trade effect, commodity composition effect, market distribution effect and competitiveness effect for the three periods i.e. 1980-90, 1990-2005 and 1980-2005.

Total Exports: The results of decomposition analysis showed that world trade effect on India's export growth has been favorable during the all the sub-periods.

The commodity composition effect was unfavorable during the sub-period 1980-90, 1990-2005 and whole period 1980-2005. Market distribution effect, though was unfavorable during the first sub-period and whole period, it turned out to be highly favorable during second sub-period. Contrary to this, competitiveness effect was favorable during the first sub-period and whole period, turned out to be highly unfavorable during second sub-period.

Thus in terms of CMS model, world trade effect has largely contributed to growth of India's total exports.

Manufactured Exports: In respect of total manufactured exports, the picture turned out to be largely different, especially during the second and third sub-period. The three components i.e. world trade effect, commodity composition effect and competitiveness effect were favorable during first sub-period, but market distribution effect was somewhat unfavorable. During second sub-period and whole period, world trade effect and competitiveness effect contributed favorably to growth of exports, while market distribution effect remained unfavorable during second sub-period and also the whole period. The commodity composition effect was unfavorably in second sub-period, but turned favorable for the whole period.

This shows that manufactured sector of India remained competitive and non-manufactured exports might have been uncompetitive, rendering the competitiveness effect to the unfavorable during the second sub-period for total exports.

SECTION-WISE ANALYSIS OF MANUFACTURED EXPORTS

Chemicals: Section-wise analysis of manufactured exports shows that world trade effect and Commodity composition effect was found to favorable for the exports of chemicals during all the sub-periods and whole period. Market distribution effect was found to be unfavorable during the sub-period 1980-90, but turned out to be favorable during the sub-period 1990-2005 and whole period 1980-2005. Competitiveness effect was found to be favorable during the sub-period 1980-90, but turned out to be unfavorable during the sub-period 1990-2005. However, competitiveness effect of chemicals was favorable during the whole period.

Basic Manufactured Exports: For the exports of Basic Manufactured Exports, world trade effect was found to be favorable for the sub-periods and study period 1980-2005 indicating that India has maintained its export share in the foreign market, vis-à-vis world. Commodity composition effect was found to be unfavorable during the sub-periods 1980-1980, 1990-2005 and whole period 1980-2005. Market distribution effect was favorable during the sub-period 1980-90, but turned out to be unfavorable during the sub-period 1990-2005 and whole period 1980-2005. Competitiveness effect was favorable during all the three periods indicating improved position of exports in terms of competitiveness.

Table 4
Constant Market Share Analysis of India's Manufactured Export to the World

	1980-1990				
	Change in Export between 1980 to 1990	*World Trade Effect*	*Commodity Composition Effect*	*Market Distribution Effect*	*Competitiveness Effect*
Chemicals	1013.5 (100)	226.7 (22.4)	138.12 (13.6)	-43.6 (-4.30)	692.31 (68.31)
Basic Manufactured Exports	4122.2 (100)	1845.4 (44.8)	-390.22 (-9.47)	94.22 (2.29)	2572.76 (62.41)
Machinery & Transport Equipment	709.15 (100)	447.8 (63.1)	395.95 (55.8)	368.30 (51.94)	-502.88 (-70.91)
Misc. Manufactured Goods	2338.55 (100)	671.83 (28.7)	625.99 (26.8)	256.43 (10.97)	784.30 (33.54)
Total Manufactured Excports	8183.37 (100)	3191.68 (39)	1686.09 (20.6)	-100.86 (-1.23)	3406.5 (41.63)
Total Exports	10411 (100)	5420.98 (52.1)	-12.28 (-0.12)	-1065.08 (-10.23)	6067.4 (58.28)
	1990-2005				
	Change in Export between 1990 to 2005	*World Trade Effect*	*Commodity Composition Effect*	*Market Distribution Effect*	*Competitiveness Effect*
Chemicals	10635.7 (100)	2643.3 (24.9)	792.2 (7.4)	76985.6 (723.8)	-69785.3 (-656.1)
Basic Manufactured Exports	27345.98 (100)	13303.7 (48.6)	-4126.1 (-15.1)	-1812.03 (-6.63)	19980.4 (73.07)
Machinery & Transport Equipment	9886.7 (100)	2648.8 (26.8)	168.02 (1.7)	3648.8 (36.91)	3421.1 (34.6)
Misc. Manufactured Goods	13583.2 (100)	6510.6 (47.9)	-982.1 (-7.2)	-1596.02 (-11.7)	9650.8 (71.05)
Total Manufactured Exports	61451.6 (100)	25106.4 (40.9)	-693.7 (-1.13)	-7256.7 (-11.8)	44295.7 (72.1)
Total Exports	85464 (100)	35700.96 (41.8)	-25.7 (-0.03)	158630.5 (185.6)	-108841.8 (-127.4)
	1980-2005				
	Change in Export between 1980 to 2005	*World Trade Effect*	*Commodity Composition Effect*	*Market Distribution Effect*	*Competitiveness Effect*
Chemicals	11649.19 (100)	1303.24 (11)	819.13 (7)	7267.6 (62)	2259.2 (19.4)

contd. table

	1980-2005				
	Change in Export between 1980 to 2005	*World Trade Effect*	*Commodity Composition Effect*	*Market Distribution Effect*	*Competiti-veness Effect*
Basic Manufactured Exports	31468.16 (100)	10611.2 (34)	-3640 (-12)	-6013.8 (-19)	30510 (97)
Machinery & Transport Equipment	10595.89 (100)	2574.73 (24)	1370.6 (-19)	9681.9 (91)	-3031.3 (-29)
Misc. Manufactured Goods	15921.77 (100)	3863.01 (24)	1204.6 (-21)	-3265 (-21)	14119 (88.7)
Total Manufactured Exports	69635.02 (100)	18352.2 (26)	4541.9 (-6.2)	-4306.2 (-6.2)	51047 (73.3)
Total Exports	95875.03 (100)	31170.6 (33)	-34.17 (-16)	-15097 (-16)	79835 (83.3)

Notes: Figures within parentheses represent percentage changes.
Source: UN Comtrade Database http://www.uncomtrade.com

Machinery & Transport Equipment: For the exports of Machinery & Transport Equipments, world trade effect, commodity composition effect and market distribution effect were found to be favorable for all the sub-periods and whole period. Competitiveness effect was unfavorable during the sub-period 1980-90, while it turned out to be favorable during the sub-period 1990-2005. However, competitiveness effect was found to be unfavorable during the whole period 1980-2005.

Miscellaneous Manufactured Exports: For the export of Miscellaneous Manufactured exports, world trade effect and competitiveness effect was found to be favorable during all the three periods. Commodity composition effect was favorable during 1980-1990, while turned out to be unfavorable during 1990-2005. Market distribution effect was found to be favorable during 1980-90, but turned out to be unfavorable during the sub-period 1990-2005 and whole period 1980-2005.

During all the periods, world trade effect was found to be favorable for all the sections considered indicating that India had maintained its export share in the foreign market, vis-à-vis world. During the period 1980-90 and 1980-2005, commodity composition effect was found to be favorable for all the sections except Basic Manufactures indicating that India had concentrated on export commodities whose markets were growing relatively fast. Market distribution effect was found to be favorable for Machines & Transport Equipment for all periods indicating that export of these product groups were concentrated on relatively fast growing markets. The competitiveness effect was found to be favorable for Basic Manufactures and Miscellaneous Manufactures all the three periods of time indicating improved position of exports in terms of competitiveness. The competitiveness effect was

found to be unfavorable for Machinery and Transport Equipments during the period 1980-90 and study period 1980-2005 and for chemicals during the period 1990-2005. It implies that India has not been able to compete well due to its unfavorable domestic policies vis-à-vis the rest of the world.

Thus the study reveals that all the considered sections- Chemicals, Basic Manufactured Exports, Machinery & Transport Equipment and Miscellaneous Manufactured Goods experienced increase in growth rates in post-reform period (1992-2005). There was a positive shift in RCA in total manufactured exports and section 'Chemicals' during 1980-2005. Manufactured exports of India remained competitive, while non-manufactured exports might have been uncompetitive rendering the competitiveness effect to the unfavorable during the period 1990-2005. World trade effect was found to be favorable for total exports, total manufactured exports and all the sections considered- chemicals, basic manufactured goods, machinery and transport equipments and miscellaneous manufactured goods indicating India has maintained its export share in the foreign market, vis-à-vis world. The study shows that India's manufactured exports were increasing only due to world trade effect and competitiveness effect (out of 4 components), but its market distribution effect was unfavorable. However, competitiveness effect of Machinery & Transport Equipments was unfavorable during the study period 1980-2005. To increase competitiveness of Machinery & Transport Equipment, there is an urgent need for further diversifying India's export basket towards high quality and high technology goods. Exports of Machinery & Transport Equipment may be encouraged through a new policy, motivations and support mechanisms.

References

Aswicahyono H., (2000), "Understanding the Patterns of Trade in the ASEAN Automotive Industry", *CSIS Working Paper Series*, WPE No. 056 (September).

Bishwas B (1982), "Constant Market Share Analysis of Export Performance: The Case of India", *The Indian Economic Journal,* Vol. 29, No. 3, pp. 41-51.

Kellman M., Roxo T. & Shachmurove Y., (2003), "South Africa's International Competitiveness: A Product Level Analysis", *PIER Working Paper Archive 03-020*, Penn Institute for Economic Research, Department of Economics, University of Pennsylvania.

M. Akbar (2000), "The Export Competitiveness of Pakistan: A Constant Market Share Analysis, 1973-1995" *Pakistan Journal of Applied Economics*, Vol. 16, Nos. 1 & 2, (1-23).

Mahmood A. (2000), "Trade Liberalization and Malaysian Export Competitiveness: Prospects, Problems, and Policy Implications", University Of Newcastle, Australia. Available at *http://econ.tu.ac.th/iccg/papers/amir.doc* (Dated: 20 May, 2006).

Mathur V. (2006), *Foreign Trade of India - 1947 To 2007: Trends, Policies and Prospects.* New Century Publishers, New Delhi.

Panchamukhi V. R. (1973), "Revealed Comparative Advantage India's Trade with the Countries of ECAFE Region*", Economic and Political Weekly*, Vol. VIII, No-1 (January*)*.

Richardson, J. D. and Zhang C. (1999), "Revealing Comparative Advantage: Chaotic or Coherent Patterns*", NBER Working Paper 7212*, Cambridge, (July).

Roy, Dilip Kumar (1991), "Export Performance of Bangladesh: A Constant Market Share Analysis", *The Bangladesh Development Studies*, Vol. XIX, No. 3, pp. 63-78, (September).

Tiwari, R. S. (2007), "Export Competitiveness in India and USA: A Comparative Analysis" *The Indian Journal of Economics*, Vol. LXXXVII, No. 347, Part-4 (April).

Van Dijck P., Verbruggen H., (1981), *"A Constant-Market-Shares Analysis of ASEAN Manufactured Exports to the European Community"*, Research Memorandum 1981-9, Free University Amsterdam (May).

Veeramani C (2007), "Sources of India's Exports Growth in Pre-and Post-Reform Periods", *Economic and Political Weekly*, pp. 2478-2482 (June).