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Implications of Trade Liberalisation on Indian Dairy Sector: An Empirical Analysis

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I

INTRODUCTION

Dairy industry witnessed radical changes in the last decade of the 20th century as a consequence of the economic reforms initiated by the Government of India in 1991. Beginning with the delicensing and deregulation, the dairy industry entered a new phase with India's signing of Uruguay Round Agreement (URA) of General Agreement on Tariffs and Trade (GATT). As the international trade restrictions and regulations are gradually melting away in the wake of GATT negotiations, which culminated in the formation of World Trade Organisation (WTO), the traditional dairy sector which had been under high levels of government interventions and regulations hitherto, has now moved to a situation where there are commonly acceptable trade barriers, export subsidy restraints and minimum market access provisions that are sure to put the industry on new gears. Moreover, the combined effects of both the macroeconomic reforms and WTO commitments may well reconstruct the environment in which the Indian dairy industry will operate. In the international dairy market, though the immediate impact of Agreement on Agriculture (AoA) which promotes liberalisation in global trade is less certain, the dairy industry is showing initial symptoms of structural changes in the trade patterns, in the form of redistribution of market share among the major players.

Under liberalised and globalised conditions, analysis of global competitiveness is a must for any economic enterprise engaged in the production of tradable commodity. Despite impressive growth of exports of dairy products their export performance was limited by their lack of competitiveness. In view of all these projections and potential changes, as the country move towards a more and more liberalised economy, opinions on whether the impact of trade liberalisation are beneficial or adverse to the Indian dairy industry are sharply divided. At a time when we are facing series of negotiations at the WTO level, we need to put forward our concerns and argue for the interests of the nation, which can be best done by conducting a series of empirical studies on every sector of the economy. The present study analyses the dairy trade

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scenario and also assesses the competitiveness of the Indian dairy industry for the period 1982-2000 so that a meaningful conclusion can be arrived on the changes that have occurred due to trade liberalisation.

II

METHODOLOGY

Data Collection and Sources

As the study is primarily a comparative analysis of dairy sector scenario in pre- and post-reforms period, choice of period for analysis becomes crucial. In India, trade liberalisation, in the real sense of the term began in 1991 as part of the economic reforms initiated. Therefore, the periods 1982-1991 and 1992-2001 were taken as pre- and post-reforms period, respectively.

The data were collected from various secondary sources, viz., FAO Website (www.fao.org), *FAO Trade Year Book* (1980-2001), *Monthly Statistics of Foreign Trade in India* (1980-2001), *Economic Survey*, Government of India (2001, 2002 and 2003), Customs References of India – Kohli (1980-2001) regarding quantity, price and value of exports and imports, direction of trade and production of dairy products in India as well as world.

Analytical Framework

The data collected were tabulated and subjected to various statistical analyses to meet the specified objectives of the study. Tabular analysis involving descriptive statistics was extensively used on the data related to production, exports and imports of dairy products.

To study the trade composition and direction, at the first instance the dairy products that were exported and imported over the years were identified and listed. The share of individual dairy products in total dairy exports and imports were calculated for pre- and post-liberalisation periods. Thus the change in export-import basket was compared.

Measures of Competitiveness

Traditionally price is one of the most important indicators of competitiveness as it is a direct reflection of consumer appreciation of quality and indirect indicator of relative efficiency of the production process. Hence, a price based measure like national protection coefficient (NPC) has been accepted as a standard measure of competitiveness.

(i) *Nominal Protection Coefficient (NPC)*

Nominal Protection Coefficient (NPC) of any commodity is the ratio of its domestic price to its international reference price.

$$NPC = \frac{P_d + T_d}{P_w + T_w}$$

Where,

NPC - Nominal Protection Coefficient,
P_d - Domestic price,
P_w - International reference price,
T_d - Transport cost in domestic market,
T_w - Transport cost in world market.

The NPC shows the divergence between the domestic price and the world reference price and thereby explains the level of protection accorded to the particular commodity in a country. However, this may not completely explain the competitiveness of a commodity for the reason that the wholesale price prevailing in the domestic market cannot be considered as the export price (Deepika, 2001).

Therefore, in the present study a comparison has been made between the unit price of exports (i.e., export value/export quantity) in India and the unit price in the world. Both the prices are given in US$ and are f.o.b. prices.

$$\text{Thus, NPC} = \frac{\text{India's export price}}{\text{World export price}}$$

Export and import prices were derived as the following,

(a) Export Price (US$/kg) = $\frac{\text{Export Value}}{\text{Export Quantity}}$

(b) Import Price (US$/kg) = $\frac{\text{Import Value}}{\text{Import Quantity}}$

If NPC < 1, the commodity under consideration is competitive in the international market and has positive incentives for exports.

(ii) *Index of Revealed Comparative Advantage (RCA)*

This index is the measure of how a country is capable of allocating resources for production and export for a commodity in comparison with the rest of the world.

$$RCA = \frac{\text{Per cent share of export of the commodity in country's total exports}}{\text{Per cent share of world export of the commodity in total world exports}}$$

If the value of RCA is above 100 for a commodity in a particular country then it is considered to have a comparative advantage in the trade of that commodity.

(iii) *Other Measures*

Apart from NPC and index of RCA, there are a few other indicators from which we can draw certain inferences about the competitiveness of the dairy products.

(a) Share of exports of Indian dairy products in world exports.
(b) Share of production of milk and milk products in world production.
(c) Coefficient of variation in the production and exports of dairy products in India.

Based on their share and regularity of trade, butter, skimmed milk powder (SMP), whole milk powder (WMP), ghee and sweetened milk were selected for a detailed analysis.

III

RESULTS AND DISCUSSION

Export -Import Basket of Dairy Products

In this section a detailed analysis of India's trade over the years in terms of its composition and direction are made with comparisons between pre- and post-reforms period. India has been trading in around 20 dairy products with extremely varying degree of frequency and quantity during the past two decades. However, the trade revolves around 10 major products, which constitute the export-import basket of Indian dairy trade (Table 1). These products constitute more than 95 per cent of total exports and imports of dairy products. Among these 10 products, there are six products, which prominently figure in the trade list, for their higher percentage share, as well as consistency and regularity in trading. These five products, namely, SMP, WMP, butter, ghee and sweetened milk were identified as the major dairy products in Indian dairy trade and their trade performance were analysed individually in detail.

SMP emerged as the most important export item in both pre-liberalisation and post-liberalisation periods with 26 and 24 per cent of total dairy exports, respectively. The ten products in the export basket including SMP, WMP, ghee, butter and condensed milk accounted for around 98 per cent and 99.50 per cent of the total dairy exports in pre- and post-liberalisation periods, respectively.

Direction of Trade

In order to identify and compare the major trading partners in the trade of dairy products the shares of important trade-blocks in pre- and post-liberalisation period are discussed in the following paragraphs.

TABLE 1. COMPARISON OF EXPORT-IMPORT BASKET IN THE TRADE OF DAIRY PRODUCTS IN PRE- AND POST-LIBERALISATION PERIODS
(PRE-LIBERALISATION PERIOD: 1982-1991; POST LIBERALISATION PERIOD: 1992-2001)

	Exports				Imports			
	Pre-liberalisation		Post-liberalisation		Pre-liberalisation		Post-liberalisation	
Sl. No. (1)	Product (2)	Share in total exports (per cent) (3)	Product (4)	Share in total exports (per cent) (5)	Product (6)	Share in total imports (per cent) (7)	Product (8)	Share in total imports (per cent) (9)
1.	SMP	25.70	SMP	23.93	SMP	25.84	Butter	26.92
2.	WMP	19.23	Ghee	17.18	Butter	21.65	Ghee	26.91
3.	Ghee	15.25	Butter	15.89	Sweetened milk	18.67	SMP	16.62
4.	Butter	14.63	Sweetened milk	14.15	Ghee	16.47	Sweetened milk	11.79
5.	Sweetened milk	9.71	WMP	12.30	WMP	7.54	WMP	5.28
6.	Cheese and curd	4.73	Condensed milk	7.64	Condensed milk	2.49	Condensed milk	3.74
7.	Condensed milk	3.13	Evaporated milk	3.59	Cheese and curd	1.95	Processed cheese	3.72
8.	Evaporated milk	3.10	Cheese (whole cow milk)	1.98	Cheese (Whole cow milk)	1.26	Cheese (Whole cow milk)	2.59
9.	Cheese (whole cow milk)	1.34	Cheese and curd	1.47	Evaporated milk	0.99	Acid milk	1.09
10.	Whey powder	0.89	Acid. milk	1.37	Fresh milk	0.85	Evaporated milk	0.44
	Sub-total	97.71		99.50		97.72		99.11
	Other products	2.29		0.50		2.28		0.89
	Total	100.00		100.00		100.00		100.00

In the pre-liberalisation era, our dairy products were mainly exported to SAARC (37 per cent) and OPEC (35 per cent) countries. The East European countries (8.76 per cent) were the next favoured destination of our dairy exports. Looking at the percentage of shares in post-liberalisation era SAARC and OPEC were still the major export destinations with 30 per cent and 32 per cent respectively. However, the exports to OECD countries, which comprise mainly the developed nations of EU, North America and Asia-Oceania, had increased substantially at 17 per cent of total dairy exports from India. Thus, India have started to export to the developed world in the post-liberalisation era, as a result of market access to these countries as well as increase in our ability to export owing to cost-competitiveness and improved quality.

In the pre-liberalisation period OECD countries were the major source of imports accounting for 54 per cent of the total dairy imports. Among OECD countries, North America was the major source contributing to 52.03 per cent of our imports. In the post-liberalisation period also OECD countries remained the major source, however, with a reduced share of 43.58 per cent. Among the OECD countries EU being the major one with 34.76 per cent of total dairy imports. The imports from Asia-Oceania group, which comprises mainly Australia and New Zealand, had increased quite substantially to the level of 6.52 per cent from just 0.27 per cent in pre-liberalisation years. Imports had also started coming from SAARC and East-European countries, the shares of which stood at 4.45 per cent and 3.36 per cent, respectively. Interestingly, the destination-wise analysis of exports and imports showed that the share of major trade blocks contributed to only 55 per cent and 52 per cent in pre- and post-liberalisation periods, respectively. It implies that the source of imports are highly scattered and India had been importing from smaller countries over the years. It is not so in the case of exports, where the share of major trade blocks was around 85 per cent and 90 per cent in pre- and post-liberalisation periods, respectively, i.e., these trade blocks remained the most preferred destination for our exports.

DAIRY PRODUCTS TRADE: INDIA VS. WORLD

A comparison of exports and imports in dairy products between India and the world is made with the use of trend lines. The trend lines were plotted for all the dairy products using quantity indices of exports and imports for both India and the world. The indices were constructed by keeping the average of triennium 1989-1991 as base.

The trend lines (Figure 1) of export quantity indices for all the dairy products showed that the relative growth of India’s exports remained below the world exports in pre-liberalisation period as compared to the base year. However, Indian exports showed a much higher growth than world export in the post-liberalisation period with a greater degree of variability. This indicated that the Indian exports were growing at a much faster rate than the world exports in the post-liberalisation period, though the quantity of Indian exports in absolute terms is only negligible in the total world

exports. This showed that exports of India have picked up in the post-liberalisation period not only in absolute terms, but also in relation to the rest of the world.

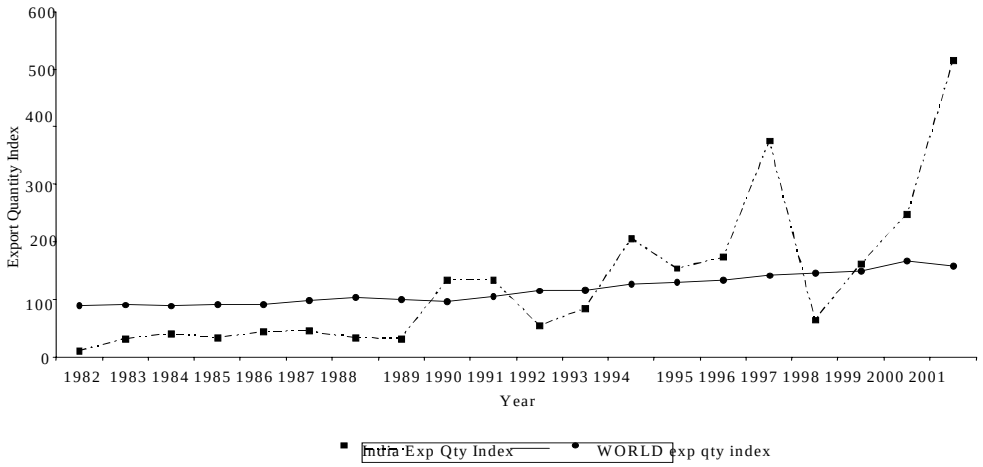

Figure1. Comparison of Trend of Exports of All Dairy Products in Pre- and Post-liberalisation period: India vs. World.

Trend lines of import quantity indices showed that the level of Indian imports remained above world imports in the pre-liberalisation period, as compared to the base year (Figure 2). On the contrary Indian imports were growing at a much slower rate than world imports for all the dairy products as compared to the base year in the post-liberalisation period.

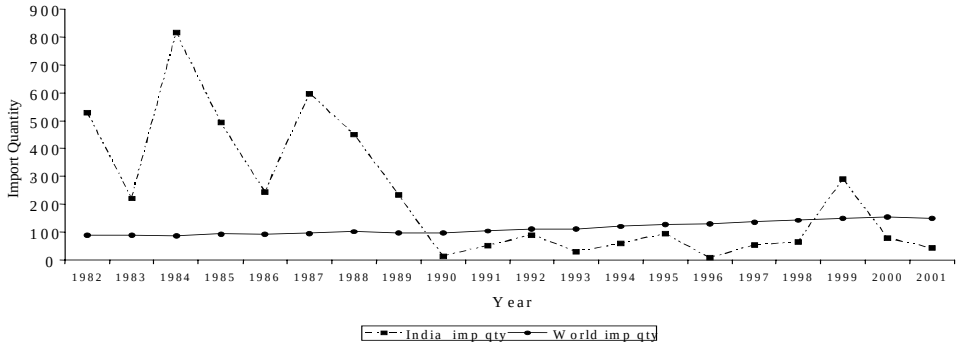

Figure 2. Comparison of Trend of Imports of All Dairy Products in Pre and Post-Liberalisation period: India vs. World

Thus, in relative terms India's exports had been growing faster than the world exports while the reverse is true for the imports. However, the variability in the trend was much higher in the case of India's exports and imports with wide year-to-year fluctuations. The world trade was very stable throughout the period 1982-2001 with a little upward movement in post-liberalisation period.

Competitiveness of Indian Dairy Products

The measures such as NPC and index of RCA are a direct indicator of whether the industry is competitive for a particular product or not. While the measures like share of production in global production, share of exports in world exports, correlation between exports and world export price are the indirect indicators of assessing a country's potential or ability to compete in the international market.

(i) *Nominal Protection Coefficient (NPC)*

The values of NPC for five major dairy products for the period 1982-2001 are presented in figures (Figures 3 to 7). NPC for butter was more than unity for all the years except 1989, indicating India was not competitive in butter trade. The higher ratios were either due to the fact that our export prices were higher or because of the subsidised low prices of exports from other countries. Even in the post-liberalisation period, which was expected to increase the export prices of developed nations owing to the cut in export subsidies, the scenario did not change much. However, the values were getting closer to unity in the post-liberalisation period.

In case of SMP and WMP, the values of NPC were greater than unity in the pre-liberalisation period and lower than unity in post-liberalisation period. The higher values in pre-liberalisation period were due to the large export subsidies provided by developed countries, which distorted the world export prices. Also in domestic front, the industry was well protected and there were export restrictions as milk and milk products were put under the category of sensitive items. Therefore, when the industry was liberalised as part of the economic reforms in 1991, coupled with the WTO commitments at the global level which reduced the export subsidies given by big exporting countries, the ratio of Indian export prices to world export prices started falling in the post-liberalisation period. Similarly ghee, which had NPC values greater than unity for most part of the pre-liberalisation period, had NPC values of less than unity in the post-liberalisation period and became competitive. However, India has never been competitive in the trade of condensed milk as suggested by the NPC values, which were greater than one throughout the period 1982-2001.

(ii) *Index of Relative Comparative Advantage (RCA)*

Comparative advantage, in abstract terms is the ability of a country to produce and market a commodity in a more economical way than the rest of the world. The

index of RCA compares how important is a particular commodity or group of commodities in the trade of a country in comparison to the rest of the world. If the index is more than 100, then it is inferred that the particular country has a comparative advantage for that particular commodity, over other countries.

It can be seen from Table 2 that ghee had very high values of RCA, being more than 100 for all the years during the period 1982-2001, while other commodities had values much less than 100. Thus, India has comparative advantage only in ghee and can take over the entire market, as it is also the major producer of ghee.

TABLE 2. INDEX OF REVEALED COMPARATIVE ADVANTAGE OF DAIRY PRODUCTS IN PRE- AND POST-LIBERALISATION PERIOD

Year (1)	All dairy products (2)	Butter (3)	SMP (4)	WMP (5)	Ghee (6)	Condensed milk (7)
Pre-liberalisation						
1982	4.22	8.21	3.07	39.41	857.00	25.13
1983	7.99	8.42	14.22	3.87	737.18	23.15
1984	10.82	14.51	2.83	7.55	871.19	138.69
1985	8.45	17.08	3.14	5.10	727.47	8.68
1986	10.29	13.43	2.92	22.15	708.75	19.69
1987	7.59	9.79	11.32	0.44	714.28	17.20
1988	4.81	5.40	6.76	2.99	450.49	0.75
1989	3.17	5.17	8.64	0.22	233.17	7.18
1990	9.52	4.69	55.58	1.86	188.14	7.53
1991	11.50	5.30	40.13	17.42	245.18	8.47
Post-liberalisation						
1992	5.31	8.81	5.32	2.15	260.95	28.82
1993	6.34	5.63	12.43	5.67	149.88	9.54
1994	10.92	10.68	7.19	8.28	259.25	0.61
1995	8.49	7.70	20.24	2.99	900.29	4.94
1996	9.84	7.16	5.75	2.24	239.39	56.41
1997	18.96	3.83	5.44	1.26	139.70	26.35
1998	5.29	11.93	15.76	0.46	2747.87	48.60
1999	10.13	22.67	15.95	6.16	3827.17	50.09
2000	15.27	28.45	12.48	9.47	3145.71	26.97
2001	26.04	29.51	13.83	18.94	2944.70	22.05

(iii) *Other Measures of Competitiveness*

There are certain important indicators available to assess the potential of a country to influence the global trade. Though it is an *a priori* knowledge that India is not a major player in global dairy trade, it was thought useful to ascertain and see whether there is any change in the degree of competitiveness over the years, with particular reference to pre- and post-liberalisation periods.

(a) *Share of Indian Dairy Products in Global Trade*

Competitiveness can certainly mean to have larger share of exports and the ability to control world market prices through big chunk of imports as well (Porter,

1990). India's share in global exports for all dairy products as a whole had a meager range of 0.02 to 0.06 per cent during the pre-liberalisation period. However, the share has been constantly increasing in the post-liberalisation period from 0.03 per cent in 1992 to 0.19 per cent in 2001, suggesting that India has bee able to find a place in the global dairy trade (Table 3).

TABLE 3. A COMPARISON OF SHARE OF MAJOR INDIAN DAIRY PRODUCTS IN GLOBAL DAIRY TRADE IN PRE- AND POST-LIBERALISATION PERIOD (PRE-LIBERALISATION PERIOD: 1982-1991; POST-LIBERALISATION PERIOD: 1992-2001)

(per cent)

	Pre-liberalisation period				Post-liberalisation period		
(1)	Exports (2)	Imports (3)	Total trade (4)	(5)	Exports (6)	Imports (7)	Total trade (9)
All Dairy products							
Maximum	0.06	1.92	1.01	Maximum	0.19	0.30	0.19
Minimum	0.02	0.02	0.03	Minimum	0.03	0.01	0.04
Avg	0.04	0.08	0.81	Avg	0.10	0.44	0.09
Butter							
Maximum	0.08	1.45	0.74	Maximum	0.22	0.52	0.34
Minimum	0.02	0.00	0.01	Minimum	0.03	0.01	0.02
Avg	0.04	0.09	0.39	Avg	0.18	0.22	0.14
SMP							
Maximum	0.29	1.81	1.08	Maximum	0.13	0.73	0.45
Minimum	0.01	0.02	0.10	Minimum	0.04	0.00	0.02
Avg	0.08	0.07	0.78	Avg	0.15	0.49	0.11
WMP							
Maximum	0.19	1.95	0.97	Maximum	0.14	0.23	0.13
Minimum	0.00	0.00	0.01	Minimum	0.00	0.00	0.01
Avg	0.05	0.04	0.38	Avg	0.06	0.21	0.05
Ghee							
Maximum	4.30	17.83	15.38	Maximum	24.79	10.43	11.86
Minimum	0.98	0.02	0.23	Minimum	0.89	0.13	0.45
Avg	2.76	9.76	5.65	Avg	4.23	5.12	4.76
Condensed Milk							
Maximum	0.68	2.35	1.79	Maximum	0.35	1.88	1.29
Minimum	0.00	0.01	0.01	Minimum	0.00	0.01	0.03
Avg	0.13	0.17	0.47	Avg	0.41	0.36	0.32

Product-wise analysis showed that the share of butter, SMP, ghee and condensed milk had increased considerably in the post-liberalisation period. As India is the major producer of ghee, our share in global exports remained around 25 per cent in the last few years. Only in case of WMP the share had come down in post-liberalisation period as compared to pre-liberalisation period due to the slump in production.

As far as imports were concerned, the shares in pre-liberalisation years were much higher than the post-liberalisation period for all the products except for condensed milk. Since, in those days our production was not good enough to meet the demands, these results are as expected. As the values of total trade are heavily influenced by imports, it follows the same trend as that of imports.

Thus, the position of India in global dairy trade is steadily improving and hence the competitiveness of our dairy products.

(b) *Share in Total World Production*

Trade as such is a function of production and domestic consumption and thus the share of a country in global production affects the capability to have export surplus. As far as production of milk and milk products, India has a prominent position in global dairy scenario.

The share of India in the total world milk production had nearly doubled in the last decades from 7 per cent (1982) to 14 per cent (2001). The share of cow milk had increased nearly in the same proportion but the buffalo milk had slightly declined in the post-liberalisation period as compared to pre-liberalisation period (Table 4).

TABLE 4. A COMPARISON OF TREND IN SHARE OF PRODUCTION OF INDIAN MILK AND PRODUCTS IN TOTAL WORLD PRODUCTION

(per cent)

Year (1)	Cow milk (2)	Buffalo milk (3)	Goat milk (4)	Total milk (5)	Butter and Ghee (6)	Skimmed milk (7)	Condensed milk (8)
Pre-							
1982	3.47	65.06	13.25	7.46	9.18	41.97	7.93
1983	3.46	67.23	14.12	7.78	8.76	44.79	8.29
1984	3.65	67.84	15.08	8.23	9.19	40.32	8.35
1985	3.82	68.09	15.70	8.59	9.29	39.88	8.60
1986	3.97	67.99	16.10	8.84	9.22	40.28	9.15
1987	4.19	66.52	16.01	8.95	10.07	32.99	9.25
1988	4.36	65.56	16.56	9.15	11.39	27.28	9.03
1989	4.52	66.33	16.64	9.58	11.52	26.85	9.05
1990	4.64	65.93	23.87	9.89	13.08	24.79	9.48
1991	4.90	64.58	23.94	10.14	14.52	21.45	9.53
Post-							
1992	5.27	64.21	24.27	10.72	15.00	18.90	8.80
1993	5.51	64.01	24.51	11.15	15.97	18.31	9.31
1994	5.66	64.37	24.26	11.53	18.11	17.11	0.21
1995	5.62	65.48	24.87	11.99	19.54	15.80	0.24
1996	5.85	60.70	25.65	12.27	20.81	14.20	0.27
1997	6.32	60.00	26.02	12.84	21.54	13.65	0.30
1998	6.65	61.44	21.80	13.35	23.08	12.18	0.33
1999	6.82	61.83	20.51	13.68	24.65	11.52	0.36
2000	6.98	62.05	20.91	13.97	26.62	10.40	0.39
2001	6.96	62.06	21.52	14.05	29.45	9.08	0.41

Though the country has more than 14 per cent share in the total milk production but the share in the total world trade is only 0.4 per cent. So naturally the question arises, why such a vast difference in the share of production and trade? Why the huge production potential is not converted into trade competitiveness? There can be several reasons. First, because of huge population, the domestic demand is very high and it is further going to increase in the future as the per capita income and awareness about

nutrition values of milk and milk products is increasing. Second, our products cannot win in the international market due to lack of cost competitiveness and inadequate quality standards. Third, globally, there is a campaign against the milk and milk products of buffalo species, which forms more than 50 per cent of our total production.

(c) *Variability in Production and Exports*

Higher share of production and exports is definitely an indicator of competitiveness. But, this may not be sufficient to be competitive. If the variation is high and uncertainty in levels of production and exports exist then that particular country cannot command a place in the global trade.

Looking at the data in Table 5 it can be observed that the coefficient of variation in exports is very high for all dairy products indicating lot of instability and uncertainty. However, the CV values in the post-liberalisation periods are comparatively less than that in pre-liberalisation years, which substantiate the NPC results that our products are becoming more and more competitive in the post-liberalisation period.

TABLE 5. COEFFICIENT OF VARIATION OF EXPORTS OF DAIRY PRODUCTS IN INDIA IN PRE- AND POST-LIBERALISATION PERIOD

	Export Quantity		Export Value	
Product (1)	Pre-liberalisation (2)	Post-liberalisation (3)	Pre-liberalisation (4)	Post-liberalisation (5)
All dairy products	80.36	71.33	80.36	71.33
Butter	21.22	70.36	21.22	70.36
SMP	160.49	77.4	160.49	77.4
WMP	194.3	111.07	194.3	111.07
Ghee	27.43	66.31	31.54	60.67
Condensed milk	155.23	73.57	155.23	73.57

(d) *Trade Policy Status*

Trade policy of a country with particular reference to the commodities in question could be a crucial factor in deciding the competitiveness. A brief description of our trade policy in respect of individual commodities in the pre- and post-liberalisation periods is given in Table 6. The exports and imports of all dairy products were either restricted or canalised through National Dairy Development Board or IDC or APEDA in the pre-liberalisation years and then had been moved to OGL (Open General License) list with low tariff rates. Thus, the trade policy in the post-liberalisation period has created favourable atmosphere for the exports of dairy products and will not be a constraint in increasing our competitiveness.

TABLE 6. TRADE POLICY STATUS FOR MAJOR DAIRY PRODUCTS IN INDIA IN PRE- AND POST-LIBERALISATION PERIOD

Product (1)	Exports		Imports	
	Pre-liberalisation (2)	Post-liberalisation (3)	Pre-liberalisation (4)	Post-liberalisation (5)
SMP	Canalised	Free	Restricted	Free
Butter	Canalised	Free	Restricted	Free
WMP	Canalised	Free	Restricted	Free
Ghee	Canalised	Free	Restricted	Free
Condensed milk	Restricted	Free	Restricted	Free

IV

CONCLUSIONS

- The top ten products in the export basket including SMP, WMP, ghee, butter and condensed milk accounted for around 97 per cent and 95 per cent of the total dairy exports in the pre and post-liberalisation periods, respectively. The share of dairy exports in agriculture and total exports of our country had increased markedly in the post-liberalisation period while the share of dairy imports have substantially gone down. Amongst all the products butter, SMP and ghee were the three major products that dominated the trade in trade of dairy products in both pre- and post-liberalisation periods.
- Percentage of exports to developed countries has remarkably increased in the post-liberalisation period. ASEAN and SAARC remained the leading destinations for Indian exports in both the periods of liberalisation.
- Majority of the Indian imports were from developed countries. By and large, the sources of imports were highly scattered. While North America had been the major source in pre-liberalisation period, EU became the favoured source in post-liberalisation period.
- In comparison to world exports, Indian exports of dairy products showed more positive growth trend in the post-liberalisation period but higher degree of variability and instability was observed in Indian exports.
- India had gained competitiveness in the trade of SMP, WMP and ghee in the post-liberalisation period. Though negligible, the percentage share of Indian exports in the global exports was growing while that of imports was declining in the post-liberalisation period. Similarly, the share of Indian production in global production had been gradually increasing over the years in all dairy products except condensed milk. Thus, majority of the indicators refer to the fact that the competitiveness of Indian dairy products has increased. India is particularly, competitive in the export of SMP, WMP, and ghee products.

V

POLICY IMPLICATIONS

The exports of Indian dairy products have increased considerably in the post-liberalisation period, but still the share of India's trade is very negligible. It is recommended that the following steps should be taken to improve the existing situation:

(i) India should be able to improve its status as a producer of quality and safe dairy products.
(ii) Sufficient incentives should be given for clean milk production, which has to be promoted vigorously.
(iii) One major limitation of our trade is that there is huge variability, which needs to be addressed.
(iv) India needs to project itself as a more consistent and reliable trading partner by regular trade with at least some countries with which it has been trading traditionally.

Indian dairy industry should try to improve upon its trade in export competitive products and more emphasis needs to be given to increase the production of these commodities. To make dairy products internationally competitive, domestic processing efficiency also has to be improved substantially.

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