Impact of ASEAN-India Free Trade Agreement on Indian Dairy Trade: A Quantitative Approach

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I. Introduction

Trade fosters economic growth: International trade acts as an engine of economic growth through promoting greater competition, increasing flow of knowledge and investment, catalyzing more efficient allocation of resources and facilitating faster capital and technological progress. On one hand, trade enables specialization on a large scale basis with expanded market and on the other; it enables availability of more and more goods at a competitive price which leads to increase in real income and consumption. Empirical evidence shows positive correlation between economic growth and foreign trade (Langley *et al.,* 2003); its magnitude considerably higher for the economically developed countries compared to the less developed countries.

The desirability of trade originally put forth by Adam Smith (1776) was first demonstrated theoretically by 19th century English economist David Ricardo. Ricardo showed that in a world where labor is the only factor of production, if each country specializes in the good in which it has a comparative advantage, then all countries can gain from trade. Intuitively, it means that this kind of specialization maximizes global production of goods and enables countries to enjoy greater levels of consumption through international trade. Ricardo's seminal work has spawned a rich literature in international trade theory showing that even under more general conditions, Ricardo's conclusion that free trade is mutually beneficial continues to hold good.

Later, the Heckscher-Ohlin theory introduced a second factor of production, capital, and showed that a country will export the commodity that intensively uses the factor that is relatively more abundant in that country (and will import the good that intensively uses the scarce factor). In other words, as observed by Markusen *et al*. (1994), the Heckscher-Ohlin theory may be used to support certain empirical observations including evidence that labor-abundant developing nations tend to export labor-intensive goods such as agricultural products, clothing, footwear

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etc. For instance, labour abundant agrarian economy like India is among 15 leading exporters of agricultural products in world. The agricultural and allied sector engages 58% of the labour force in the country and agricultural exports account for 10% share in country's export basket (GoI, 2012).

***Developments in Global Trade Agreements*:** In order to promote global economic growth and decrease international economic tensions, for about half a century from 1948 to 1994, the rules for trading among nations were provided by the General Agreement on Tariffs and Trade (GATT). However, as agricultural trade was inadequately covered under GATT governance, trade in agriculture remained highly protected while trade liberalization occurred in industrial commodities. In 1995, the Agreement on Agriculture (AoA) under the new World Trade Order (WTO) brought agriculture sector in the ambit of globally accepted trading rules with the aim to reform trade in the sector and make policies more market oriented. However, the experience in the implementation of the new multilateral trade agreement indicated that although the WTO Agreements were a major step towards liberalization of global trade, yet there were a number of implementation issues in the AoA that led to continuance of high level of protection to the agriculture sector in the developed nations and hence did not provide level playing field for the developing countries (Chand, 2002, Sirohi, 2002). The necessity for negotiating on the contentious issues in the WTO framework was therefore, recognized by the developing countries, but in the absence of any consensus among the member countries on further liberalizing the framework that has been put in place, ultimately the WTO talks came to a stalemate. As the prospects of bringing about changes in the multilateral worldwide WTO agreements diminished, the Economic Partnership Agreements (EPA) increased in number.

Economic Partnership Agreement is an agreement between two or more than two countries to harmonize their economic policies for the benefit of the members (Crawford *et al.,* 2005). Benefits like increased income through expansion of trade volumes, achieving economies of scale, reduction in monopoly inefficiencies and availability of greater product varieties accrue to the member nations. The framework of the agreement are of various types; Free Trade Agreement (for all goods and services), Preferential Trade Agreement (for preferred goods and services), Economic Integration Agreement, Customs Union, Partial Scope Agreements , etc.

In past four years, a number of bilateral and multilateral regional trading agreements have come into force, such as SAFTA (South Asian Free Trade Agreement), CEFTA (Central European Free Trade Agreement), AIFTA (ASEAN India Free Trade Agreement), Australia-Chile FTA (Free Trade Area) and EIA (Economic Integration Agreement), Japan-Vietnam FTA, etc. The world has entered into one of the most prolific periods of regional trade agreement (RTA) formations in recorded history and the post-1990 wave of RTA formation shows no sign of abating (Crawford and Fiorentino, 2005). The latest numbers released from the WTO show that it is monitoring 319 agreements as of Jan, 2012, up from 180 agreements in 2003.

Empirical literature on economic impact of regional trade agreements broadly concludes that although countries should approach regionalism with care, such agreements have been more of a blessing than a burden (Freund and Ornelas, 2010). The existing FTA's in European Union have increased EU GDP by 2% (Chen 2004). The implementation of North American Free Trade Agreement (NAFTA) in January 1994 led to expansion of U.S. agricultural exports to partner countries, Canada and Mexico by 59 percent between 1993 and 2000, while corresponding exports to the rest of the world grew only 10 percent (Zahniser 2002). Studying the effects of Mercosur—a trading bloc formed by Argentina, Brazil, Paraguay and Uruguay in 1991—on export prices to Brazil, Chang and Winters (2002) concluded that resulting price effects from the trade agreement has helped Brazil while hurting the outsiders. Using the Global Trade Analysis Project (GTAP) database, the simulation results analyzing the recently signed ASEAN-India Free Trade Agreement (AIFTA) reveal that post-FTA, India's exports to ASEAN increase substantially, but India experiences a welfare loss due to both allocative inefficiency and negative terms of trade effect (Sikdar and Nag, 2011). The partial equilibrium approach followed by Veeramani and Saini (2011) for carrying out a quantitative assessment of the impact of AIFTA on selected plantation commodities, i.e., coffee, tea and pepper suggested that this agreement would lead to a significant increase in such imports by India, driven mainly by trade creation rather than trade diversion. The analysis showed that the proposed tariff reductions under the India-ASEAN trade agreement might lead to a significant loss of tariff revenue for the Government of India. However, the gain in consumer surplus (due to falls in domestic prices and the consequent reduction in dead-weight loss) would outweigh the tariff revenue loss, leading to a net welfare gain.

The Present Study: The signing of AIFTA invoked mixed reactions about its likely impact on India. While Federation of Indian Chamber of Commerce and Industry and the Confederation of Indian Industries seem to be positive about is impact on some segments of the manufacturing sector, apprehensions are raised that agriculture sector, marine products, textile and garments, auto components are likely to face increased competition due to AIFTA (Harikumar *et al*., 2011). It is therefore, of topical interest to analyze in a sectorial perspective, India's relative advantages and disadvantages in joining this regional trade agreement. The present study focuses on its impact on India's dairy trade. Partial equilibrium model has been used to simulate the trade impacts as per the proposed tariff reduction schedule

The choice of commodity is guided by the fact that India is the largest producer of milk in the world and this commodity makes highest contribution to the agricultural sector in the country, accounting for 20% of the value of output from agriculture and allied activities (GoI 2012). Out of Rs. 5.8 lakh crores value of output in agriculture and allied activities in 2010-11, milk alone contributes around Rs. 1.2 lakh crore (GOI 2012). However, despite of being the highest producer of milk, India remains a minor player in the world dairy market due to host of reasons, such as, low exportable surplus due to huge domestic demand, low production of value added dairy products, quality constraints, highly distorted world dairy markets, etc. At present dairy sector accounts for 2% of the total export basket of the nation (APEDA, 2011). Almost 80% of the country's dairy exports are destined towards Asian countries (Hazra, 2005). In TE2010, ASEAN countries accounted for 15% of the country's dairy exports indicating the possibility of gains to Indian dairy sector from AIFTA.

The next gives a brief overview of the trade agreement and the tariff reduction commitments, particularly for the dairy products followed by presentation of the emerging trends in Indo-ASEAN dairy trade in the third section. The fourth section briefly describes the partial equilibrium model followed in the study and the fifth section discusses the results of the simulation modeling. The final section concludes the study.

II. ASEAN-India Free Trade Agreement: an Overview

The Association of Southeast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand. Brunei Darussalam, Viet Nam, Lao PDR, Myanmar and Cambodia joined later making up what is today the ten Member States of ASEAN.

ASEAN-India bilateral trade has been growing steadily from 1993 and stood at US$ 43.9 billion in 2009-10, with ASEAN's export to India at US$ 25.79 billion and imports from India at US$ 18.1 billion (Deloitte-FICCI White Paper, 2011). As a part of its liberal and genial approach to East Asia, India made strategic trade integration with countries of South East Asia, entering in Free Trade Agreement with ASEAN countries that came into effect from January 1, 2010. This FTA, considered the world's largest, aims at opening a $1.8 billion worth of consumer market to the member countries with a combined GDP of $ 2.3 trillion.

According to official notifications, the trade in goods agreement focuses on tariff liberalization on mutually agreed tariff lines from both the sides and is targeted to eliminate tariffs on 80% of the tariff lines accounting for 75% of the trade in a gradual manner starting from 1 January 2010. It proposes to gradually slash tariffs for over 4,000 product lines over a staggered period by 2019. However, certain specified products on both sides will be shielded to some degree. The agreement therefore provides some flexibility to India and ASEAN countries to exclude some of the products from the tariff concessions or eliminations.

Tariff Commitments in AIFTA: The trade in goods (TIG) agreement between India and ASEAN takes a number of measures to improve trade flow between the regions. According to the agreement, the involved countries will not institute or maintain any non-tariff measure on the importation of goods from other members of the FTA. They have also pledged to reduce tariff rates on a large number of tariff lines. These reductions will be done according to the country-specific schedules. The general tariff reduction schedule of India, relevant for the ASEAN countries is as follows.

The ASEAN-India FTA or AIFTA classifies the tariff lines into four broad heads. These are:

– Normal track (NT): The applied MFN rates will be reduced and subsequently eliminated. This is divided into 2 subcategories called Normal track 1 (NT-1) and Normal track 2 (NT-2). The difference between the two is that NT-2 has a longer implementation period (till 2021) than NT-1 (till 2019).

– Sensitive track (ST): For the first stage of implementation, applied most favored nation (MFN) rates that are above 5% will be reduced to 5% in accordance with the country-specific reduction schedules.

– Special products: These refer to some select products for which India has decided to reduce tariff rates at a much more gradual pace than either the normal track or the sensitive track.

– Exclusion list (EL): For these products no reduction commitments have been made. But it has been mentioned in the agreement that the exclusion list shall be subject to an annual tariff review with a view to improving market access. A total of 496 product lines under HS 6 digit category are listed in exclusion list (from India) of which 268 product lines (54%) are from agricultural and allied agricultural products (HS 01-24, except HS 03) (Dasgupta 2009).

Dairy Products: The agreement provided for safeguard measures in case imports cause substantial injury to the domestic producers. India has kept most of the dairy product lines under exclusion list (13 out of 20 in HS 6 Digit) (Table 1) where no tariff reduction has been committed. Other member nations have committed to reduce tariff mainly under normal track 1 and 2 category (table 1). Only a few product lines (1 to 2) have been kept in special track where tariff has been reduced to base rate of 'five' instead of 'zero' in normal track 1 or normal track 2.

Table 1: Tariff commitments of member nations under AIFTA in dairy sector[2]

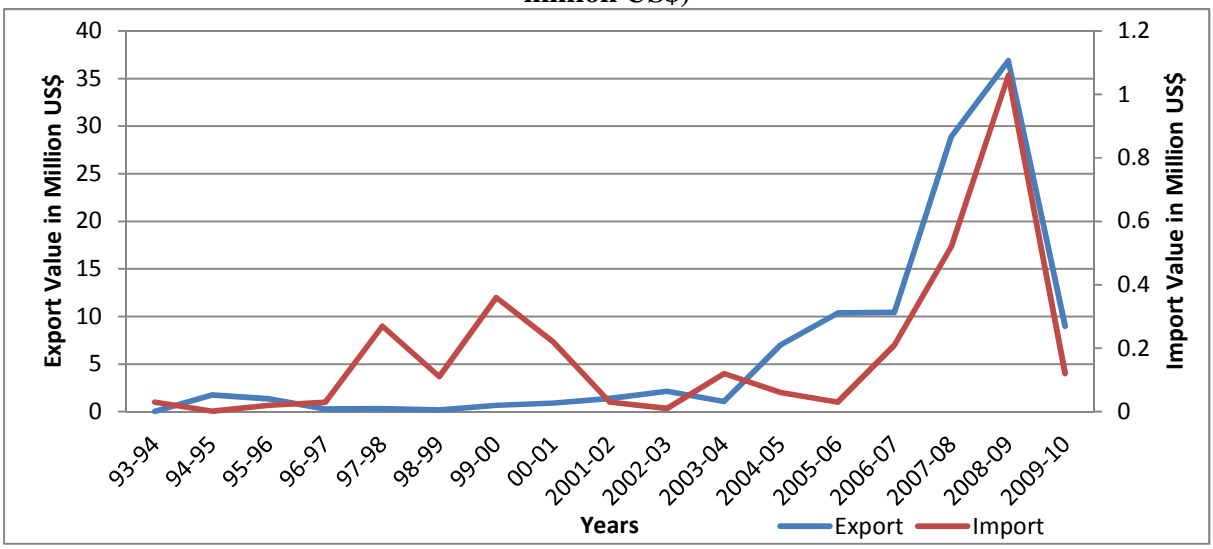
Countries	Tariff Lines at HS 6 Digit	Exclusion list	Normal Track 1	Normal Track 2	Special Track
India	20	13	7	0	0
Brunei	20	0	20	0	0
Cambodia	20	0	20	0	0
Indonesia	20	12	7	0	1
Lao PDR	20	0	18	0	2
Malaysia	20	13	5	2	0
Myanmar	20	0	19	0	1
Philippines	20	9	8	1	2
Thailand	20	16	2	0	2
Vietnam	20	0	9	11	0

[2] The details of tariff reduction schedule for different member nations can be found at http://www.aseansec.org/22563.htm

Trends in India-ASEAN Trade in Dairy Products

The Indian exports of dairy products to ASEAN countries that were in nascent stage in 1993 (US$ 0.02 million) reached US$2.13 million in 2002-03, albeit the increase was not steady rather quite volatile (Fig. 1). The exports picked up in real earnest after 2003-04 registering a compound annual growth rate of 47% during 2003/04-2009/10 (Table 2). The growth momentum in terms of quantity and value received a setback in 2009-10, partly as a result of slackening demand situation due to economic crisis and partly because of ban on exports of milk powder imposed by the Indian Government.

Figure 1: Exports & Imports of Indian dairy products to ASEAN countries (Value in million US$)



Source: Authors' Own Calculation

Table 2: Growth in Exports & Imports of Dairy products

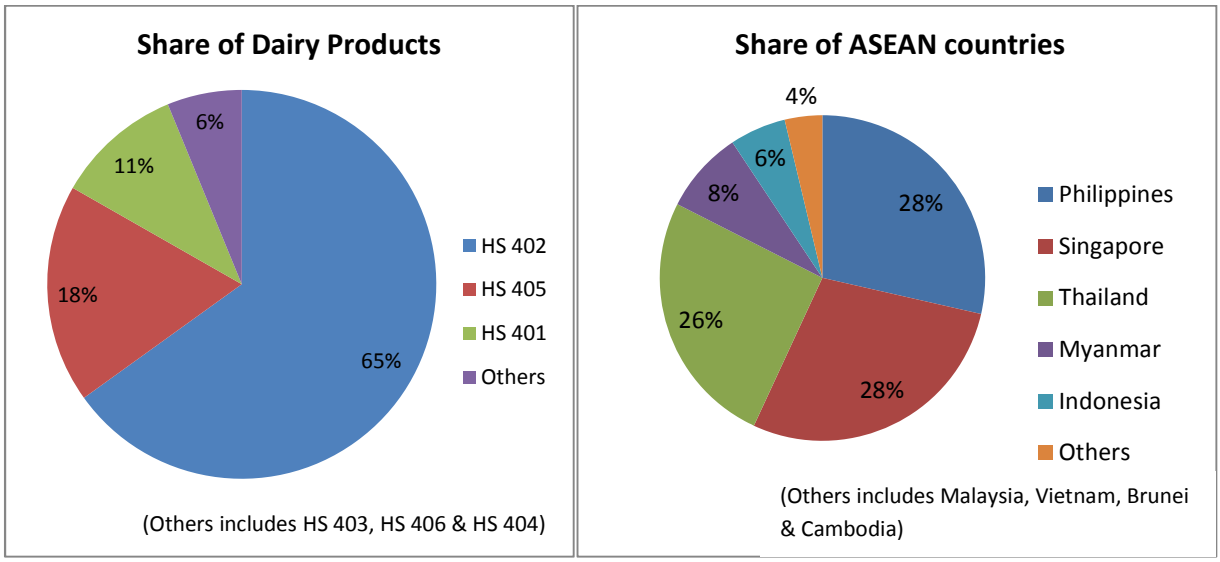
Figures are of compound annual growth rates (%)						
Elements	Exports			Imports		
	1993-94 to 2009-10	1993-94 to 2003-04	2003-04 to 2009-10	1993-94 to 2009-10	1993-94 to 2003-04	2003-04-2009-10
	Overall	Period one	Period two	Overall	Period one	Period two
Quantity	39.56	27.28	41.81	19.05	34.02	11.15
Value	38.76	24.09	47.01	19.66	21.73	35.93

Source: Authors' Own Calculation

The export basket mainly consists of milk powders classified under HS-0402 (Fig. 2). Among the ASEAN countries, the main importers of this product are Thailand (33%),

Philippines (32%) and Singapore (12%). The next important item was butter and fat based product (HS 0405) with the major destinations once again being Thailand (31%), Philippines (26%) and Singapore (23%). The perishability and bulkiness of product group milk and cream not concentrated (HS 0401) usually restricts its international trade, however, in the recent years due to imports by Singapore the share of this product group in the Indian export basket was over 10 percent. The other products like Cheese and curd (HS 0406), Whey based products (HS 0404) and curdled milk and buttermilk products (HS 0403) also exported by India but to a limited extent.

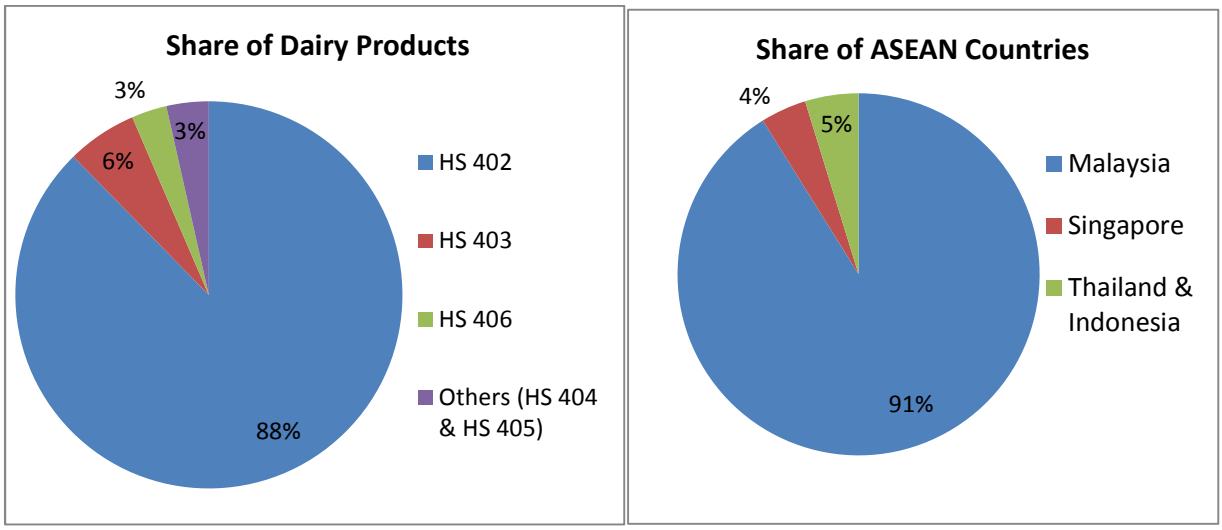
Figure 2: Composition & Destinations of Dairy Exports to ASEAN: TE 2010



Source: Authors' own calculation

From the import side of dairy products, India has limited trade relations with ASEAN. The total value of imports during 1993/94-2009/10 was only US$3.2 million, of which about 1/3 was made in 2008-09 (Fig 1). The main products in the import basket (Fig 3) were milk & cream concentrated (HS 0402), Buttermilk & curdled milk (HS 0403) and Cheese & curd (HS 0406). Malaysia is the major supplier of product group HS0402 (91% in TE 2010) while both, Indonesia and Malaysia mainly exported buttermilk (60% and 40% share, respectively) to India. Singapore and Thailand are the major exporters of both cheese & curd and whey based products. Both these countries have a share of 50% in these two categories of product.

Figure 3: Composition & Destination of Dairy Imports from ASEAN: TE 2010



Source: Authors' own calculation

By and large, India is a net exporter of dairy products in the region and traditionally, its export destinations are Thailand, Philippines and Singapore while import partners are mainly Malaysia and Singapore.

IV. **Methodology:** Partial Equilibrium SMART Model[3]

According to the theory of customs unions, whether or not the increase in trade caused by the free trade agreement would be welfare improving depends on the source of the increased trade; that is the extent of *trade creation* relative to *trade diversion* (Viner, 1950). *Trade creation* occurs when the lowering of tariffs allows partner country imports to replace high-cost domestic production; this improves welfare. Trade diversion, on the other hand, occurs when the removal of tariffs causes trade to be diverted from a third country to the partner country despite the fact that, were the countries treated equally, the third country would be the low cost source of imports.

The two major methodological approaches considered in the literature for simulating the effect of tariff changes on the trade flows are: general equilibrium models (eg. computable general equilibrium model, applied general equilibrium model and dynamic general equilibrium model) and partial equilibrium models (eg. SMART Model, ERS-Penn state model, UW-Madison world dairy model). While each of this approach has its own advantages and disadvantages, the present study uses the *ex-ante* partial equilibrium approach, the main advantage being possibility of market access analysis at fairly disaggregated level with minimal data requirement.

The UNCTAD trade policy simulation model or SMART model (Software for Market Analysis and Restrictive Trade) used in this study was developed by UNCTAD to estimate various effects of commercial policy changes, including changes in tariff rates and the incidence of non-tariff distortion of international trade. Available in the World Bank's World Integrated Trade Solution (WITS), SMART contains in-built analytical modules that support trade policy analysis, covering the effects of multilateral tariff cuts and preferential trade liberalization. In addition to decomposing the total trade effect in to trade creation and trade diversion, the SMART model can be used to analyze welfare and revenue effects. The net welfare gain/loss estimated in the SMART model, depends on (*i*) the additional tariff revenue entailed by the increase in imports and (*ii*) the additional consumer surplus entailed by the increase in imports.

[3] The detailed theory and formulae of SMART calculation can be found in Laird & Yeats (1986)

The model estimation requires values of three different elasticities viz;

i) Export supply elasticity: The main simulations normally use an assumed value of infinity implying that the export supply curves are flat and the world prices of each product line are exogenously given. For this study the assumption of infinite export supply elasticities is justified as India and ASEAN countries are very minor players in the world dairy market and none of them can influence the world price of dairy products. In other words, the countries act as a price taker rather a price maker.

ii) Import demand elasticity: The model relies on Armington assumption – that is, similar products from different countries are imperfect substitutes. The representative agent maximizes her welfare through a two-stage optimization process: First, given a general price index, she chooses the level of total spending/consumption on a composite good. The relationship between changes in the price index and the impact on total spending is determined by given import demand elasticities. Import demand elasticity values that are provided by SMART module have been used for the present study.

iii) Substitution elasticity: Within this composite good, she allocates the chosen level of spending among the different 'varieties' of the good, depending on the relative price of each variety. The extent of the between-variety allocative response to change in the relative price is determined by the 'Armington' substitution elasticity (1.5 in the SMART model).

The simulation modeling has been carried out with India as exporter as well as importer of dairy products in the ASEAN region. Drawing from the tariff reduction schedule of each nation in AIFTA, the impact of change in tariffs in 2019 compared to base year tariff in 2007 were simulated for the relevant product lines of dairy products at HS 6 digit level. The results were then aggregated to HS 4 digit level to represent broad commodity groups.

V. Results: Quantification of AIFTA Tariff Reduction Impact

It has been brought out earlier that India is both, an exporter and importer of dairy products in the ASEAN region; with a positive net trade balance. Therefore, tariff reduction commitments under AIFTA would affect the Indian exports as well as imports of dairy products. Hence, to quantify the effect of the tariff reduction under the agreement, simulations were done in two scenarios:

Scenario 1: India as an exporter and *Scenario 2*: India as an importer

Scenario 1: India as an exporter

The simulation results showing the gains to India in 2019 (terminal year for tariff reduction in a phased manner) as compared to the base year 2007 are presented in Tables 2-4. The simulations have been carried out in the SMART model of WITS for each ASEAN country. Table 2 shows that out of 10 ASEAN countries, India stands to benefit from the tariff reduction on dairy products in only 3 countries, viz., Philippines, Myanmar and Vietnam. Besides these three nations, the increase in imports on account of reduced tariffs would also take place in Lao PDR (US$2995 thousand), Cambodia (US$646 thousand) and Thailand (US$49 thousand) but its benefit would remain confined to ASEAN nations. India will not gain in these countries as tariff reduction has been committed on those product lines where India has no trade relations with them. For similar reasons, in Indonesia and Malaysia also, reduced tariff on dairy products is of no advantage to India. The base year tariffs in dairy product groups for the ASEAN member nations in these two countries is already zero hence, the total change in imports works out to be nil for Indonesia and Malaysia. The rest of the two ASEAN countries, Brunei and Singapore are already free trade ports (zero import duty) for all the products and countries, therefore, addition benefit due to tariff change would obviously not arise. The detailed discussion on gains to India that follow hereinafter are therefore, focused on Philippines, Myanmar and Vietnam.

The total value of Indian dairy exports in the base year from these three countries was about US$ 5.6 million, of which about 93% was accounted by Philippines. The total change in imports resulting from tariff reduction comes from two sources viz; trade creation and trade diversion. In absolute terms, considering ASEAN and India together, the total increase in imports by 2019 would be highest in Philippines (US$150.09 thousand), followed by Vietnam (US$ 39.54 thousand) and Myanmar (US$ 9.67 thousand). However, in relative terms, as percentage of

base year imports the increase in import is highest in Vietnam (46.18% increase from base year import) followed by Myanmar (3.17%) and Philippines (2.88%).

Gains in Philippian Market: Out of the total gain to India from Philippines, about 40% is accounted by trade creation and the rest 60% by trade diversion. The dairy product groups (HS-4 digit) in which trade is created, that is, high cost domestic production in Philippines is replaced by relatively cheaper Indian products are: milk powders (HS 0402), followed by fermented milk products (HS 0403), fat based products (HS 0405) and whey based products (HS 0404). The gains are particularly noteworthy in fermented milk products, as its share in total value of dairy products imported from India during the base year was 3.5% but its share in increase value of imports is about 14.5% (Table 4) Specifically, the products that would be exported more under each product group are, skimmed milk and whole milk powder, yogurts, ghee and whey powder. The gains accruing from trade diversion also show similar product profile.

Almost 83% of the total trade diversion towards the AIFTA member nations would be attributable to 5 countries viz. N. Zealand, Australia, US, Netherlands and Ireland (Table 5), implying that these countries will lose their market share of dairy products in Philippines while the ASEAN and India will be the gainers.

Gains in Vietnam Market: Unlike the Philippian market where dominant part of gain to India comes from trade diversion, in the Vietnamese market the benefits accruing from trade creation are higher (56%) than from trade diversion (44%). Milk powders, whey and fat based dairy products from India would improve market access in Vietnamese market. The principal losers among the non-ASEAN countries would be Netherlands, US and N.Zealand.

Gains in Myanmar Market: Unlike Philippines and Vietnam, Myanmar generates a relatively small amount of additional trade to India. Though its base year imports was sufficiently high (US$ 305.30 thousand) but the change in imports accrued due to AIFTA is relatively small (US$ 9.67 thousands, 3.17% of the base year import). The gain is mostly driven by trade creation (85%) rather than trade diversion (15%). Here only two product groups HS 0402 (milk powders) and HS 0404 (whey based products) would gain market access, primarily by replacing high cost

domestic production in Myanmar. The trade diversion away from China and Oceania would be of hardly any benefit to India.

Table 3: Aggregate Impact of AIFTA on Indian Dairy Exports

Total Dairy Products (values in '000US$)								
Countries	Base Year Import: 2007		Change in Import: 2019		Trade Creation		Trade Diversion	
	from ASEAN	from India	from ASEAN	from India	from ASEAN	from India	towards ASEAN	towards India
Philippines	23272.45	5215.70	203.43	150.09	84.99	59.97	118.44	90.13
Vietnam	31931.22	85.62	9137.09	39.54	7554.36	22.12	1582.72	17.42
Myanmar	23542.32	305.30	1241.74	9.67	1173.07	8.04	68.67	1.63
LAO PDR	5787.53	-	2995.19	-	2995.18	-	0.01	-
Cambodia	2832.99	-	646.49	-	609.14	-	37.35	-
Thailand	305.22	-	49.40	-	45.85	-	3.55	-
Indonesia	-	-	-	-	-	-	-	-
Malaysia	-	-	-	-	-	-	-	-
Brunei	-	-	-	-	-	-	-	-
Singapore	-	-	-	-	-	-	-	-

Table 4: Product-wise Increase in Dairy Exports from India

(US $'000)

Countries	Product groups	Base Year Import (2007)	Change in Import	Trade Creation	Trade Diversion
Philippines	Total	5215.70 (100%)	150.09 (100%)	59.97 (100%)	90.13 (100%)
	Milk & cream Not Concentrated (0401)	123.45 (2.37%)	9.18 (6.12%)	3.79 (6.32%)	5.39 (5.98%)
	Milk & Cream Concentrated (0402)	3785.12 (72.57%)	92.48 (61.61%)	36.93 (61.58%)	55.54 (61.62%)
	Buttermilk, Curdled Milk & Yogurt (0403)	187.36 (3.59%)	21.84 (14.55%)	9.04 (15.08%)	12.79 (14.19%)
	Whey based products (0404)	396.06 (7.59%)	9.65 (6.43%)	3.81 (6.35%)	5.85 (6.49%)
	Butter & other fats (0405)	722.03 (13.84%)	16.75 (11.16%)	6.31 (10.52%)	10.44 (11.58%)
	Cheese & Curds (0406)	1.68 (0.03%)	0.20 (0.13%)	0.08 (0.13%)	0.12 (0.13%)
Vietnam	Total	85.62 (100%)	39.54 (100%)	22.12 (100%)	17.42 (100%)
	Milk & Cream Concentrated (0402)	69.00 (80.59%)	32.74 (82.80%)	19.92 (90.05%)	12.82 (73.59%)
	Whey based products (0404)	16.50 (19.27%)	6.77 (17.12%)	2.19 (9.90%)	4.58 (26.29%)
	Butter & other fats (0405)	0.12 (0.14%)	0.03 (0.07%)	0.01 (0.05%)	0.02 (0.11%)
Myanmar	Total	305.30 (100%)	9.67 (100%)	8.04 (100%)	1.63 (100%)
	Milk & Cream Concentrated(0402)	182.93 (59.92%)	5.60 (57.91%)	4.17 (51.87%)	1.43 (87.73%)
	Whey based products (0404)	122.37 (40.08%)	4.07 (42.09%)	3.87 (48.13%)	0.20 (12.27%)

Figures in parenthesis are percentage of total value

Table 5: Top 5 Non - ASEAN Losers

(US $'000)

Importer	Non-ASEAN Exporter	Loss of export value	Importer	Non-ASEAN Exporter	Loss of export value	Importer	Non-ASEAN Exporter	Loss of export value
Philippines	N. Zealand	-100.2	Vietnam	Netherlands	-648.1	Myanmar	China	-31.9
	Australia	-38.3		USA	-344.5		N. Zealand	-20.3
	USA	-16.3		N. Zealand	-238.0		Australia	-15.3
	Netherlands	-10.2		Poland	-82.25		France	-2.0
	Ireland	-8.5		Australia	-74.29		S.Arabia	-0.7

Scenario 2: ***India as an importer***

Under AIFTA, India has committed to reduce tariff on 8 product lines at HS 8 digit level. The reduction of tariff has two-fold effect, one it can lead to revenue loss from tariffs and two, it can increase consumer surplus due to cheaper access from imports of the products.

Table 5: Effect on AIFTA on India's Dairy Imports

(US$ '000)

Product Code	Base year Imports: 2007	Change in value by 2019		
		Imports	Revenue	Welfare Gain
Buttermilk, Curdled Milk & Yogurt (HS 0403)	214.99	0.66	-0.27	0.10
Whey based products (HS 0404)	329.86	430.22	-17.65	85.10
Cheese & Curds (HS 0406)	1471.07	0.99	-0.75	0.11
Total	**2015.94**	**431.87**	**-18.66**	**85.30**

There would be an increase in India's import value of about US$ 432 thousand by 2019 consequent upon reduction in tariff rates on dairy products (Table 5). The increase would come about in three major product groups, fermented dairy products (HS 0403), whey based products (HS 0404) and cheese & curd (HS 0406). The combined share of these product groups hovers around 25-30% in India's dairy import basket. It is of particular interest to see the surge in imports of whey based products (particularly dry whey), where change in imports would even surpass the level in base year. The imports would be coming from a single country; Singapore (Table 6) and are primarily generated (97%) from trade creation. Therefore, the positive consumer surplus far outweighs the revenue loss leading to net welfare gain to India. The small quantum of trade diversion that would take place for dry whey would be chiefly from Australia.

The import of other products viz. yoghurt, grated and other type of cheese will also increase for Singapore and few other ASEAN countries like Malaysia, Philippines and Thailand.

Table 6: Trade Creation in Dairy Commodities with ASEAN Countries

(US$ '000)

Dairy Product Groups	Partners	Base year Import (2007)	Change in Imports	Trade Creation Effect	Trade Diversion Effect
Buttermilk, Curdled Milk & Yogurt (HS 0403)	**Singapore**	0.09	0.27	0.24	0.03
	Thailand	0.57	0.29	0.09	0.2
Whey based products (HS 0404)	**Singapore**	44.73	430.22	416.12	14.10
Cheese & Curd (HS 0406)	**Malaysia**	0.27	0.14	0.05	0.09
	Philippines	0.71	0.37	0.12	0.25
	Singapore	0.86	0.48	0.18	0.30

VI. **Conclusions**

ASEAN is strategically a potential market in dairy for India and our country already stands as net exporter of dairy products in this region. The SMART model simulations suggest that AIFTA, by its trade in goods agreement (TIG) has generated an additional scope for India to increase its dairy exports to ASEAN countries. Albeit, quality parameters are not taken into consideration SMART model and results are based on new tariff allocations only. Hence, India would have to be competitive on the quality front, lest the potential gain from reduced tariffs in ASEAN countries is eluded. It is hard to capture wider share in those countries where the tariff is already eliminated, rather it will be beneficial for the Indian dairy industry to look into the markets where elimination through AIFTA generates huge trade creation and capture these markets with wider varieties and trade relations in relevant product lines.

On the other hand, tariff elimination from India's side creates little scope for ASEAN nations to expand their shares. The threat of cheap imports competing with the domestic products in the Indian markets is therefore not alarming. However necessary adjustment assistance may be provided to the dairy product manufacturers to counter the competition in the relevant product lines, such as dry and powdered whey.

The industry requires a comprehensive strategy to generate higher exportable surplus and consistent policy support giving a big push to carve a bigger place in the ASEAN dairy market.

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