



IDENTIFYING PARTICIPATION IN VALUE CHAINS FOR SOUTH ASIA

**A PRELIMINARY CASE STUDY ON
VERTICAL SPECIALIZATION, VERTICAL LINKAGES
& EXCEPTIONS TO PREFERENTIAL TRADE IN
THE PROCESSED FOOD SECTOR FOR
INDIA-BANGLADESH**

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INTRODUCTION

- *Economic integration of countries, and disintegration of their production processes* ([Feenstra, 1998](#)).



- *Developing countries have assumed a significant role in Value Chains:* ([UNCTAD, 2010](#)).

- *A simultaneous growth of vertical specialization has occurred in with a steady increase in bilateral agreements* ([Baldwin, 2006](#)).

What is the extent of Vertical Specialization?

(Value of Imported Input Content)

PROCESSED FOOD SECTOR

India-6% of GDP
Bangladesh-2% of GDP



What are the Bilateral Vertical Linkages in South Asia?

OBJECTIVES

- *Calculates Bilateral Vertical Specialisation at the broad HS 2-digit Level & discusses measures at the 6-digit.*
- *Identification of Bilateral Vertical Linkages: Inputs and Value Added Inputs exchanged between India-Bangladesh for export to world markets.*
- *Summarizes Stylized Facts for such Bilateral Linkages showing the impact of trade costs to demonstrate the reductions in the tariff and transport costs.*
- *Extends the discussion of the idea of Reducing Exceptions to Preferential Trade under Sensitive Lists based on participation in bilateral linkages.*

METHODOLOGY

I. Vertical Specialization:

Vertical Intra-Industry Specialization (HS 2-Digit)

VIIS Type

Ratio of Imports of intermediate goods (I), from a given source, divided by exports of final good(F), to either the same source or elsewhere.

$$VIIS_{jk,c1c2} = \frac{\sum_k M_{ij1,c1}}{\sum_k X_{ij2,c2}}$$

VIIS Type

Gives a measure of the degree of similarity in the value of trade in Intermediates and final goods

$$VIIS_{jk,c1c2} = \frac{\sum_k M_{ij1,c1} - \sum_k X_{ij2,c2}}{\sum_k M_{ij1,c1} + \sum_k X_{ij2,c2}}$$



II. Bilateral Vertical Linkages (HS 6-Digit)

TRACING THE CHAINS

B
E
C

Classification

Primary Input

India Imports Primary Food for Industry (BEC 111) from Bangladesh (Inputs) & Vice-Versa



Value Added Input

India Imports Processed Food for Industry (BEC 121) from Bangladesh (Value Added Inputs) & Vice-Versa



Final Good

India/Bangladesh Exports of Processed Food for Household Use (BEC 122) to World

*Industry
Sample
Surveys*

BEC-HS-2002

Input-Output



Tracing the Chains



Identifying Sensitive Items

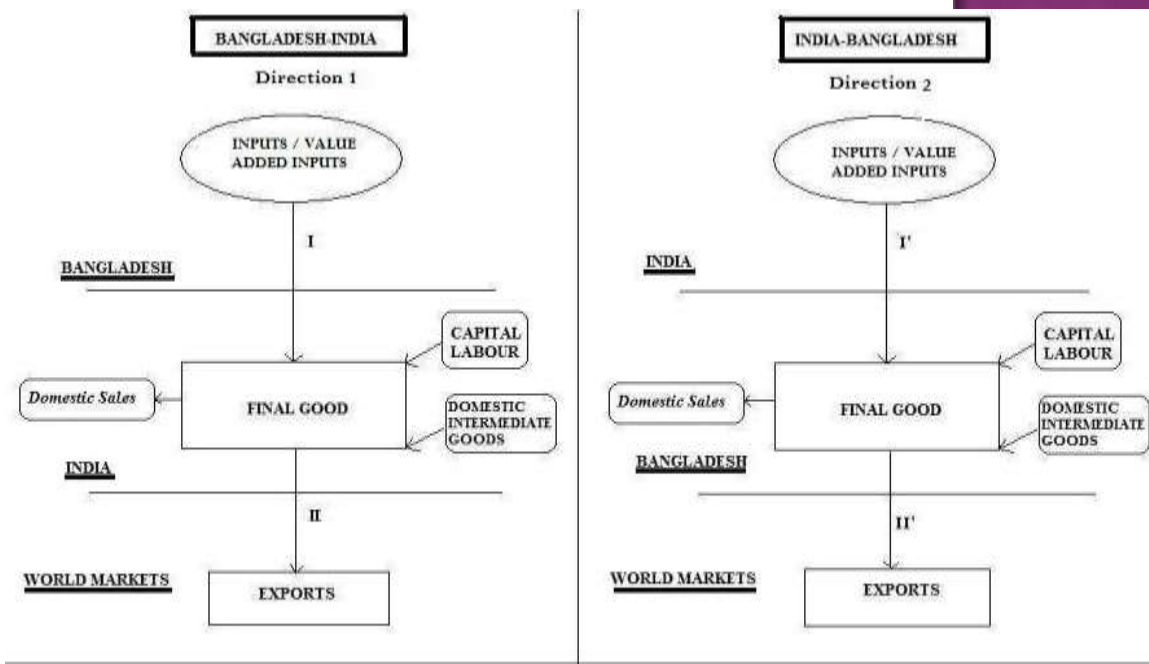


Figure 1: Vertical Trading Chains involving India and Bangladesh

FINDINGS OF THE STUDY

I. TRADE FLOWS (BEC)

India's Exports to Bangladesh in Primary and Processed Food from 2006-2009

BEC 3-Digit 111 Primary food for industry		BEC 3-Digit 121 Processed food for industry		BEC 3-Digit 122 Processed food for household consumption	
YEAR	Trade Value in 1000 USD	YEAR	Trade Value in 1000 USD	YEAR	Trade Value in 1000 USD
2006	1227.75	2006	63830.97	2006	148203.81
2007	1672.20	2007	66402.36	2007	487978.06
2008	12434.53	2008	<u>202044.62</u>	2008	597164.72
2009	<u>19107.95</u>	2009	19745.94	2009	11109.336

Source: WITS Comtrade

India's Imports from Bangladesh in Primary and Processed Food from 2006-2009

BEC-111 Primary Food for Industry		BEC-121 Processed Food for Industry		BEC-122 Processed Food for Household Consumption	
YEAR	Trade Value in 1000 USD	YEAR	Trade Value in 1000 USD	YEAR	Trade Value in 1000 USD
2006	5.51	2006	8060.456	2006	2597.284
2007	15.678	2007	6914.035	2007	1783.009
2008	1.154	2008	6891.167	2008	3744.863
2009	0.583	2009	2085.633	2009	4509.357

Source: WITS Comtrade

II. VIIS Type 1 and Type 2 (2-Digit)

I. India-Bangladesh:

High in *Animal or vegetable fats and oils.*

II. Bangladesh-India:

High in *Dairy produce, Bird's eggs, Natural Honey; Cereals; Sugars and sugar confectionery and miscellaneous edible preparations.*

III. Vertical linkages (6-Digit)

I. BAKERY ITEMS-BISCUITS-*Typical Inputs:* Flour, Sugar/Glucose, Salt, Yeast, Concentrated Milk powder and Vegetable Shortenings.

Bangladesh Imports: Sugar, Glucose syrup, Concentrated milk and Vegetable shortenings from India.

CAKES & PASTRIES-*Typical Inputs:* Flour, sugar, Vegetable Oil/Butter, Milk and Cream, Eggs, Flavouring agents and Baking soda.

Bangladesh Imports: Sugar, concentrated milk and products from India.

II. ITEMS USING FRUIT DERIVATIVES–JAMS/JELLIES-*Typical Inputs:* Fruit Pulp, Sugar/glucose, and pectin.

Bangladesh Imports: Fruit pulp and Liquid glucose from India.

Inputs and Value Added Inputs Imported & used in Final Processed Food items by Bangladesh

Item	Bakery Item		Item using fruit derivative	
Final Good	Biscuits	Cakes & Pastries	Juice	Jams & Jellies
Inputs & Value Added Inputs	Sugar / Glucose syrup*	Sugar / Glucose Syrup*	Sugar / Glucose syrup*	Sugar / Glucose syrup*
	Concentrated Milk*	Eggs	Fruit Pulp (Mango)*	Fruit Pulp (Mango)*
	Vegetable Shortenings*	Flour	Water	Pectin
	Flour	Vegetable Oil / Butter*	Preservatives	Preservatives
	Yeast	Baking Soda	Fruit Extracts*	Fruit Extracts*
	Salt	Milk /Cream*	Fruit Concentrate*	Fruit Juices*
	Flavouring Agents	Flavouring Agents	Flavouring Agents	Added Flavours

Source: Based on existing supply chains and survey by author

Notes: Items marked * are being imported by Bangladesh from India for furthering processing in industry

Primary and processed Food Items in Bangladesh Sensitive Lists as of March, 2012 (1241 to 993 Items)

Trade Flow	BEC-HS 2002	Number of items in Bangladesh Sensitive list	Number of items showing trade flows in Bangladesh Sensitive list
India's exports to Bangladesh	BEC 111-HS 2002	2	2
	BEC 112-HS 2002	30	30
	BEC 121-HS 2002	8	8
	BEC 122-HS 2002	28	28

Source: Author's compilation

Stylized example of the impact of Tariffs and Transport Costs For Bangladesh Imports

Item: Bangladesh imports of liquid glucose from India used in bakery product exports

	Bangladesh's Local Market	Bangladesh's Export Market
World Price	100	100
Tariffs (25%)	25*	-25
Service Link Costs [Transport Costs** and other costs of coordination^ (25%)]	25	-25
Cost due to import tariff (applied by Bangladesh) in export market	10***	-10
Total	160	40

***Weighted average tariffs from TRAINS**

**** Estimated transport costs based on methodology (explained in appendix) from De, Prabir (2009), compared with the estimates based on responses to surveys.**

*****Effect of tariffs on imported items used in exports, information based on surveys.**

^Other costs of coordination (telecommunication etc) based on surveys.

Levels of tariffs and transport costs can lead local producers to charge a price 60% above the price at the border in India and Bangladesh respectively.

CONCLUSIONS & FUTURE RESEARCH

- **Inputs and Value Added Inputs** exchanged between India and Bangladesh for export to world markets in Processed Foods.

- **Limitations to the approach:** -Goods might have more than a single end use -
-There may be other inputs part of these vertical linkages from other sectors.

- **Surveys:** -Quality & Logistics Issue for the Bangladeshi importers.
-Delays at the borders.

- **Useful Extensions:**
 1. To calculate the VIIS indicators at the 6-digit supplemented by the Input-Output tables.
 2. Examine other issues: standards of food quality and enforcement, establishing market credibility for higher value products, etc (*World Bank, 2007*).