


# **EXPLORING REGIONAL INTEGRATION BETWEEN SOUTH ASIA AND ASEAN: A GTAP ANALYSIS**

**Rajan Sudesh Ratna**  
**Economic Affairs Officer,**  
**UNESCAP, Thailand**

**Sachin Kumar Sharma**  
Assistant Professor  
Centre for WTO Studies  
Indian Institute of Foreign Trade  
Delhi-110016  
Email: [sksharma.jnu@gmail.com](mailto:sksharma.jnu@gmail.com)



**ARTNET WORKSHOP:**  
**TRADE AND INVESTMENT FOR TOMORROW: PROMOTING ASIA**  
**PACIFIC REGIONAL INTEGRATION**  
**MACAU, CHINA**  
**11-12-13**

## INTRODUCTION

- The world at large has witnessed a proliferation of PTAs which one started as an exception to GATT rules, but now appears to challenge the entire multilateral trading system.
- Provision for “Territorial Application – Frontier Traffic – Customs Union and Free-trade Areas” (Article XXIV of GATT) was built as an exception to one of the basic principles of the WTO i.e. Most Favoured Nation (MFN) Rule (Article I of GATT).
- The Asia and the Pacific countries are also not untouched with this phenomenon and several bilateral, plurilateral and inter-regional agreements have been signed and many more are being negotiated.
- Although, the outer structure of PTAs vary extensively, the core objective remains same i.e. reducing barriers to trade, especially tariffs, between member countries.**

The prevailing deadlock in the Doha round negotiations of the WTO resulted in the proliferation of RTAs. These agreements have become a real ‘noodle bowl’ in Asia and the Pacific and several concerns have been expressed on their structure and objectives





- While ASEAN is integrating under the overall umbrella of RCEP, however it is not clear if all other agreements will be subsumed in RCEP or will still continue to be operational.
- On other side, South Asia is now reaching towards a full FTA as most of the members are going to reduce or eliminate their duties soon.
- In this context, the objective of this study is to examine the possible effects of regional integration between ASEAN and South Asia on various sectors as well as on macro-economic and trade indicators by using GTAP model and database.**
- To analyses the likely impact of regional integration between ASEAN and South Asia, this study used simulation with a computable general equilibrium (CGE) model. In CGE, equilibrium is simultaneously obtained in more than one market.



## Methodology

- This study is conducted with a multi country, general equilibrium closure. The purpose of the CGE simulations is to determine the effects of a change in trade policy on the endogenous variables of the model – prices, production, consumption, exports, imports and welfare. The simulation represents what the economy would look like if the policy change or shock had occurred.
- The difference in the values of the endogenous variables in the baseline and the simulation represents the effect of the policy change.
- The impact of regional integration on different regions is estimated by using Global Trade Analysis Project (GTAP) static model.
- The model assumes perfect competition, constant return to scale and profit and utility maximising behaviour of firms and household respectively.
- Hertel (1997) provides detail information about the structure and overview of GTAP model. The data used in this study is the version 8.1 (recent version available) of the GTAP database.

## Aggregation Strategy

The GTAP database is compiled for 134 countries/territories across the world and for 57 tradable commodities of the world. In this study, 134 countries/territories given in GTAP data base are mapped to 8 regions . The 57 sectors of GTAP data base are mapped into 18 sectors

No.	Region
1	ASEAN
2	SAARC
3	USA
4	China
5	RoK
6	Japan
7	EU_28
8	RestofWorld

No.	New Code	Comprising old sectors code
1	Paddy	pdr pcr
2	wheat	wht
3	plantfiber	pfb
4	oilseeds	osd
5	sugar	c_b sgr
6	vegetable	v_f
7	otherGrains	gro ocr
8	Dairy	rmk mil
9	ProcFood	vol ofd b_t
10	Livestock	ctl oap wol cmt omt
11	Fish	fsh
12	Extraction	frs coa oil gas omn
13	TextWapp	tex wap
14	LightMnfc	lea lum ppp fmp mvh otn omf
15	HeavyMnfc	p_c crp nmm i_s nfm ele ome
16	transcomm	trd otp wtp atp cmn
17	Util_cons	ely gdt wtr cns
18	OtherService	ofi isr obs ros osg dwe



## EXPERIMENT DESIGN



Given the unstable economic environment, unemployment is a general phenomenon around the world. Therefore, to make this study more realistic, standard closure is altered by changing the assumption of full employment for skilled and unskilled labour.

It is to be noted that the protection data supplied in GTAP is intended to represent a starting point for analysis. Data on protection is needed to adjust to make analysis more realistic and meaningful for the simulation.

Protection data in GTAP is available for the reference year 2007. In GTAP database the protection level is different from current tariff in the above eight regions. Therefore, the protection information in GTAP database for eight regions is altered to better reflect the reality.

The tariff data is extracted from World Integrated Trade Solution (WITS). The regional integration between ASEAN and SAARC will require substantial reduction in tariff rate between these two regions.



## Sector-wise tariff for the year 2009 (Percentage)

Product	ASEAN	SAARC	USA	China	Korea	Japan	EU_27	RoW
Paddy	26.88	22.50	11.20	65.00	5.00	0.00	7.70	10.59
Wheat	0.85	15.63	2.80	65.00	2.34	3.33	1.07	6.06
Plantfibers	1.75	8.00	0.00	5.67	1.50	0.00	0.00	4.65
Oil seeds	7.19	16.31	36.95	9.53	46.73	0.77	0.00	6.67
sugar	12.43	20.81	4.91	33.25	11.63	0.40	8.00	14.00
Vegetables	8.02	19.96	5.26	14.15	64.31	5.45	6.74	14.53
Other grains	5.39	15.99	3.73	9.39	69.60	1.51	2.41	8.36
Dairy	6.76	21.30	12.25	12.04	60.09	23.41	6.42	16.58
procfood	8.83	23.76	9.12	17.54	48.21	10.94	11.30	15.46
livestock	8.73	18.59	2.43	14.41	16.54	5.55	3.59	13.37
Fishing	4.61	15.69	0.13	10.89	17.54	4.30	7.90	10.95
Extraction	1.99	10.78	0.25	2.84	2.32	0.43	0.11	5.30
Textile	9.55	14.05	8.86	11.62	9.99	6.83	7.82	13.84
lightmnfc	7.75	16.32	2.42	10.36	5.52	1.99	2.67	10.61
heavymnfc	3.76	11.40	2.18	7.55	5.65	1.19	2.65	6.71



## Composition of Welfare Effect (Million US\$)

Endowment	Terms of Trade	Investment and Saving	Welfare
1785	4039	-460	6128
6152	-1585	-563	4929
-818	-125	-80	-1506
-684	-567	278	-1299
-253	-141	40	-499
-655	-513	91	-1413
-158	-214	228	-426
-719	-909	466	-1664
4651	-14	-1	4251

welfare effects suggest that ASEAN's gain from the regional integration is n, endowment and terms of trade effects. For SAARC region, the welfare endowment effect.

s mainly because of tariff reduction. Endowment gains are from increased rms of trade because it is going to get lower prices for its exports because of her for ASEAN.

