Make a meal?
or
TASTE a meal (It is easier)?

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**Based on Mark Horridge and Badri Narayanan
Valuable Efforts**

Overview

The aim of the our study;

-To build a database for PE-GE analyse

-To do replicate of *" Narayan B., Hertel T.W., Horridge J.M. (2010), Linking Partial and General Equilibrium Models: A Gtap Application Using TASTE, GTAP Technical Paper No.29 "*

Original Paper-1

Database

- Based on GTAP 6.2 Version database and auto industry with subsectors

- TASTE software for MacMAP HS-6 Level trade and tariff data, mapped to GTAP aggregation

- Tariff adjustments in GTAP to accommodate MacMAP: Altertax simulation

- Region:

  -India, East and South East Asia and ROW

Original Paper-2

The Original Model

- CET and CES nests used to aggregate supply and demand, respectively.

- Armington nest and CES nest between domestic and import demand: based on GTAP model

- Tariff adjustments in GTAP to accommodate MacMAP: Altertax simulation

- Region:

  -India, East and South East Asia and ROW

Step.1 *"If you start, you can finish"*

(Badri Narayanan)

What did we do?

- **GTAP.AGG : Update the Mappings from Version 6.2 to Version.7**

    - We have to use same versions of the GtapAgg and TASTE programs because of updating

    - To create/change mappings for the regions and sectors, we used the GtapAgg

    - We got the .agg file for region and sectors

Step.2 *"If you start, you can finish"*
(Badri Narayanan)

- **Preparing TASTE 7.0**

- By using the agg file getting from GTAPAgg, we constitute the aggregated data

- 132 HS 6 digits data aggregated to 5 auto sub sector.

- Information about trade flow, tariff revenue and aggregate tariff revenue

Step.3   *"If you start, you can finish"*
(Badri Narayanan)

- **Now, Run GTAP**

- Altertax Simulation? Why do we need Altertax?

- We use GTAP Database 7.0 and TASTE 7.0

- There are some differences such as trade flows; tariff rate? So?

- By running Altertax simulation we eliminated the differences between two database

Step.4   *"If you start, you can finish"*

<div align="right">(Badri Narayanan)</div>

| Rates | India's Tariff Rates of Imports from | | | |
| | Database 6.2 | | TASTE 7.0 | |
	SEA	ROW	SEA	ROW
1 Motorcycles	59,7	48,2	100,0	100,0
2 MCycleparts	19,8	16,1	15,0	15,0
3 Automobiles	52,0	33,6	91,2	62,1
4 EnginesParts	19,8	16,1	15,0	15,0
5 OtherTrans	12,9	7,9	12,4	9,0
Total	164,2	121,9	233,6	201,0

-Via Altertax simulation, to eliminate differences in two database, we got shock rates

- We have VIWS and TMS. Added other trade flows (VXWD, VXMD, VIMS), margins and domestic consumption

- After, we implement these shock rates and we had India's new tariffs.

-In database 6.2 Motorcycles import tariff from ROW rate was 59.7%, In TASTE 7.0 this figure increased to 100%

Simulations

Liberalizing Auto Sector in All Regions GTAP 6.2 Results)					
% Change in Imports of India (qxsk)	1 Motorcycles	2 MCycleparts	3 Automobiles	4 EnginesParts	5 OtherTrans
1 SEAsiaOther	360,6	55,3	343,4	72,4	55,2
3 ROW	196	27,8	109,6	34,5	16,6

Liberalizing Auto Sector in All Regions (GTAP 7 Results)					
% Change in Imports of India (qxsk)	1 Motorcycles	2 MCycleparts	3 Automobiles	4 EnginesParts	5 OtherTrans
1 SEAsiaOther	396,06	62,13	319,54	68,87	46,07
3 ROW	211,93	33,96	110,02	32,26	7,17

- **Narayanan B. et. al (2010)** analyzed the effects of cutting all tariffs in all regions to "0" and found the values in Table.2
- The main reason of the difference between the results of the two analysis is that actual tariff rates of the regions
- We cut the tariff rates to 10 percent because of high inital tariffs of all reigons. Cutting to "0" doesn't work.
- The results differ because of two main reasons: one is that actual tariff rates of the regions changed thoughout the years of GTAP 6.2 and GTAP 7's publication dates. The other one ise we cut the tariffs to 10 percent, instead of 0.

Simulations

WELFARE DECOMPOSITION (GTAP 6.2 Results)			
Million USD	**Allocative Efficiency**	**Terms of Trade**	**Total Welfare Gain**
1 SEAsiaOther	1587,7 & 1844,9	1284,8 & 1565,7	3069,0 & 3614,0
2 INDIA	65,0 & 69,2	-23,5 & -16,0	51,2 & 63,2
3 ROW	540,5 & 670,5	-1544,2 & -1269,3	-1216,5 & -804,8
Total	**2193,2 & 2584,6**	**-282,9 & 280,4**	**1903,7 & 2872,4**

WELFARE DECOMPOSITION (GTAP 7 Results)			
Million USD	**Allocative Efficiency**	**Terms of Trade**	**Total Welfare Gain**
1 SEAsiaOther	3.128,7	7.584,2	9.439,9
2 INDIA	335,2	180,4	499,5
3 ROW	-16.159,6	-7.782,9	-22.651,0
Total	-12.695,7	-18,2	-12.711,6

- It is seen that ROW is the only loser in terms of total welfare gains. And also, the loss of ROW is higher than GTAP 6.2
- Because, tariff rates of the ROW are lower than SEA and India and the price effect of the ROW is lower than others.
- Gain of India is higher than GTAP 6.2 results because, India's tariff rate data of GTAP 7 is higher than GTAP 6.2.
- So, total price effect of India is higher as a result imports become cheaper in all subsectors.
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THANKS FOR YOUR ATTENTİON ☺