# Using ESCAP's online Trade Intelligence and Negotiation Advisor (TINA) for trade negotiations

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# Outline

- A quick introduction to partial equilibrium (PE) analysis
- PE results of elimination of current Indian tariffs affecting imports from Bangladesh
- Comparing with WITS
- Impact of LDC graduation
- TINA: Next steps





# **Partial Equilibrium**

Partial equilibrium – P.E. – (vs general equilibrium) analysis means that analysis is conducted product by product.

Advantages:

- Low data requirements
- Disaggregated results (GTAP's latest version has 65 sectors)
- Easy to explain and understand results Disadvantages
- No interaction between sectors, may miss out important nuances
- Relies entirely on elasticities





### Removing tariffs facing an import from A



#### **Trade Diversion**

Relative price of an import from country A falls, and because of law of demand, Quantity Demanded from A increases (but the same overall quantity is consumed – a point on the same indifference curve,  $q_1$ )



### Removing tariffs facing an import from A



#### Trade Creation

Cheaper imports from A means more of the product overall is demanded (budget line has shifted outwards, reaching a higher level indifference curve  $q_2$ )



### **PE Analysis tools: SMART**



Home > Tariff and Trade Simulations > SMART

#### SMART 0

SMART allows analysis of the impact of unilateral, preferential and multilateral trade reforms at home or abroad on variables including trade flows (imports, exports, trade creation, trade diversion), world prices, tariff revenues, and economic welfare. This market access analysis is a very useful tool that can be used to anticipate the likely economic effects of various policy alternatives. You can use databases from either UNCTAD or WTO. More details...







### **PE Analysis tools: SMART vs TINA**

(11) TC 
$$_{ijk} = M_{ijk}$$
 . Em.dt  $_{ijk} /((l + t_{ijk}).(1.(Em/Ex)))$ 

Issues with the SMART formula

#### Unconstrained

 Significant increases in tariffs may reduce trade by more than the initial amount

#### Asymmetrical

 A change in tariff will result in a different magnitude of change in imports depending on whether it's a 5% increase or decrease

Laird, S. & Yeats, A.. (1986). The UNCTAD Trade Policy Simulation Model: A Note on the Methodology, Data and Uses. UNCTAD: Geneva UNCTAD & WTO (2012). Chapter 4. Partial Equilibrium Trade Policy Simulation. in A Practical Guide to Trade Policy Analysis. UNCTAD & WTO: Geneva



#### **PE Analysis tools: SMART vs TINA**

(11) TC 
$$_{ijk} = M_{ijk}$$
 . Em.dt  $_{ijk} /((l + t_{ijk}).(1.(Em/Ex)))$ 

$$(15) TD_{ijk} = \underbrace{\sum_{ijk} \sum M_{ijk} \sum M_{ijK} \sum SM_{ijK} \sum SM_{ijK} \sum SM_{ijK} \sum M_{ijK} \sum M_{$$

#### Solutions to the problems

So TINA's formula is adjusted to ensure that TC + TD do not exceed initial values (in the case of tariff increases). TD takes precedence, followed by TC.

Denominator, P<sub>ijk</sub> is taken midpoint (new and old values) so the value magnitude in TD is the same



Laird, S. & Yeats, A.. (1986). The UNCTAD Trade Policy Simulation Model: A Note on the Methodology, Data and Uses. UNCTAD: Geneva UNCTAD & WTO (2012). Chapter 4. Partial Equilibrium Trade Policy Simulation. in A Practical Guide to Trade Policy Analysis. UNCTAD & WTO: Geneva



### **Elasticities**

WITS manual admits that the model is "...very sensitive to a few (badly estimated) behavioral elasticities"

TINA initially used World Bank's elasticities...

We estimated our own to <u>improve coverage</u>, use <u>more recent</u> <u>trade values</u>, <u>shorter time-series</u>, <u>harmonize across HS</u> <u>versions</u>, <u>latest estimation method</u> (relying on 128 GB of RAM) – see the technical note.







## **SMART vs TINA elasticities**

	This study	Kee et al. (2008)*
Number of unique reporter- specific elasticities	298,612	377,616
Number of economies	185	149
Number of six-digit HS codes	5,156 (HS2002)	4,900 (mixed HS versions)
Time span used	2002-2018	1988-2002*



\* The original paper Kee et al (2008) notes that elasticities were derived for 117 economies, with estimation using trade data from 1988-2002. However, the World Bank dataset repository suggests the dataset was last updated in 2012 (and numbers match to what we find in SMART), but no additional technical information is provided. HS code versions in the latest dataset are mixed



### **SMART vs TINA elasticities**







# Let's try to run some simulations...



# **TINA: Next steps**

- It would be useful to see what sort of provisions [indicator and the actual text] are common across potential trade partner's existing FTAs
- Research shows that many provisions across FTAs are "copy paste"

 
 Table 2: Median and Maximum Amount of Text Shared with Closest Treaty Match by Trade Topic

Part of PTA that is being Compared	Median Overlap	Max Overlap	n
Complete Text	56%	99%	378
Antidumping	88%	100%	261
Procurement	86%	100%	194
Safeguards	80%	100%	327
Services	77%	100%	184
Labor	74%	99%	24
Intellectual Property	72%	100%	218
Sanitary and Phyto-Sanitary	71%	100%	217
Financial Services	70%	100%	61
Technical Barriers	68%	100%	221
E-Commerce	67%	100%	45
Dispute Settlement	66%	100%	366
Investment	65%	100%	177
Telecommunications	64%	100%	64
Movement	50%	97%	82
Environment	50%	100%	56
Average across all fifteen sub-issues	70%	-	378



Allee, T., & Elsig, M. (2019). Are the Contents of International Treaties Copied and Pasted? Evidence from Preferential Trade Agreements. *International Studies Quarterly*, 63(3), 603-613.



### **TINA: Next steps**

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	India - Singapore.xml	Monday at 6:32 PM
(•)	India - Sri Lanka.xml	Monday at 6:32 PM
	India - Thailand.xml	Monday at 6:32 PM





### **TINA: Next steps**

Agreement 1	Agreement 2	Agreement 3
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# **THANK YOU**

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