

Session 5 – Evidence-based trade policy formulation: impact assessment of trade liberalization and FTA

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Impact Assessments:

- Impact assessments identify problems and possible solutions; and describe the likely economic, environmental, social and whenever relevant, human rights impacts of those solutions.
- For trade agreements, they aim to answer such questions as:
 - Is a trade negotiation the best way to improve our trade relations with the specific partner?
 - Which issues should be covered in the negotiation?
- To answer these questions, an impact assessment must:
 - verify the existence of a problem
 - identify its underlying causes
 - assess whether action is needed
 - analyse the advantages and disadvantages of available solutions and their impacts
- An impact assessment also includes public consultation of interested parties.

Source: http://ec.europa.eu/trade/policy/policy-making/analysis/policy-evaluation/impact-assessments/#_methodology

Benefits of impact assessment (IA)

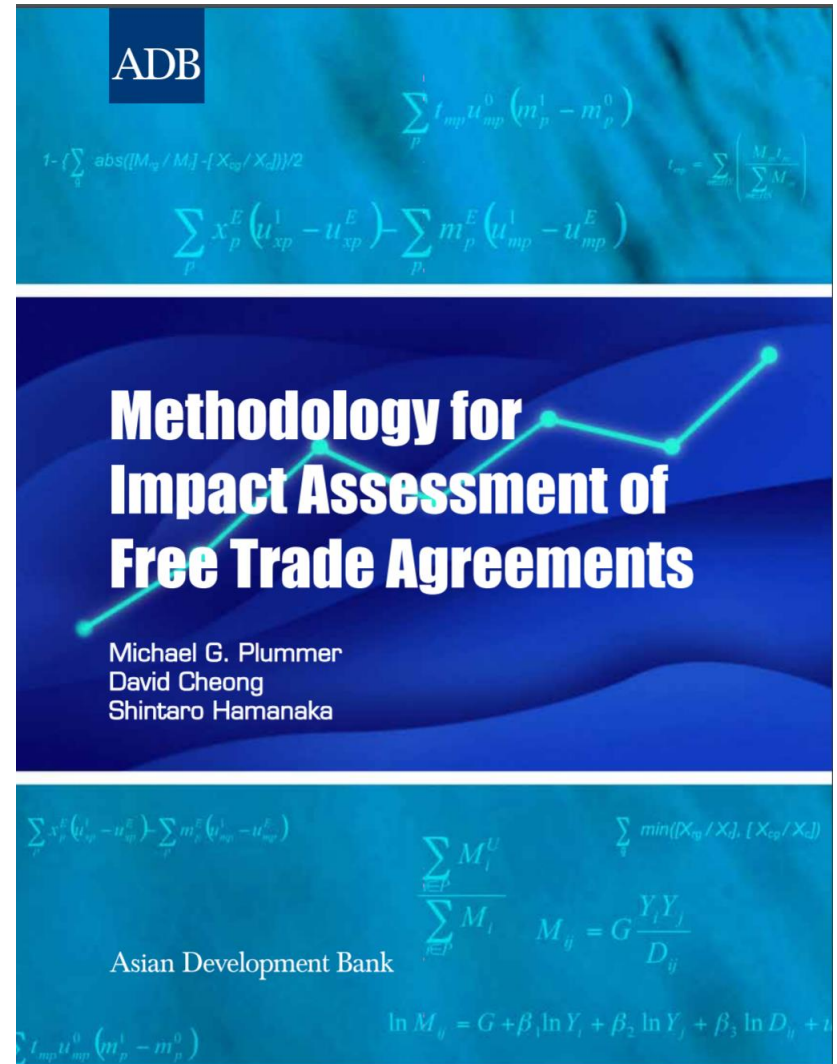
- Facilitates better trade negotiations
- Objective and transparent policy making
- Less susceptible to lobbying
- Identify 'winners' and 'losers'
- Targeted trade adjustment assistance programs
- Compare ex-ante predictions of trade policy impact with ex-post reality
- Feeds into future trade policy making

Basic steps of IA

- What kind of policy questions need to be answered ?
 - Impact of what ?
 - Impact on what ?
- Scan existing literature: find gaps
- Find the best suited methodology
- Assess if data and resources are available
- If not, choose a different methodology or collect new data
- Discuss clearly the limitations of methodology and underlying assumptions

Examples of IAs?

- <http://ec.europa.eu/trade/policy/policy-making/analysis/policy-evaluation/impact-assessments/>
- <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017SC0289&from=EN>
- A good source:
- <http://www.perpustakaan.kemenkeu.go.id/FOLDEREBOOK/impact-assessment-fta.pdf>



Policy questions

- **Before negotiation of an FTA: An analysis of potential costs and benefits (ex-ante)**
 - What a country can supply to its FTA partners? What it can source from the partners?
 - What are expected impacts on production and employment level and composition, welfare, fiscal balance, etc.
 - What are the costs for the adversely affected sectors?
- **After its implementation: An impact assessment (ex-post)**
 - Whether the impacts are within the expected range?
 - Whether the expected benefits are fully materialized?
 - Whether further adjustment in policies are necessary?

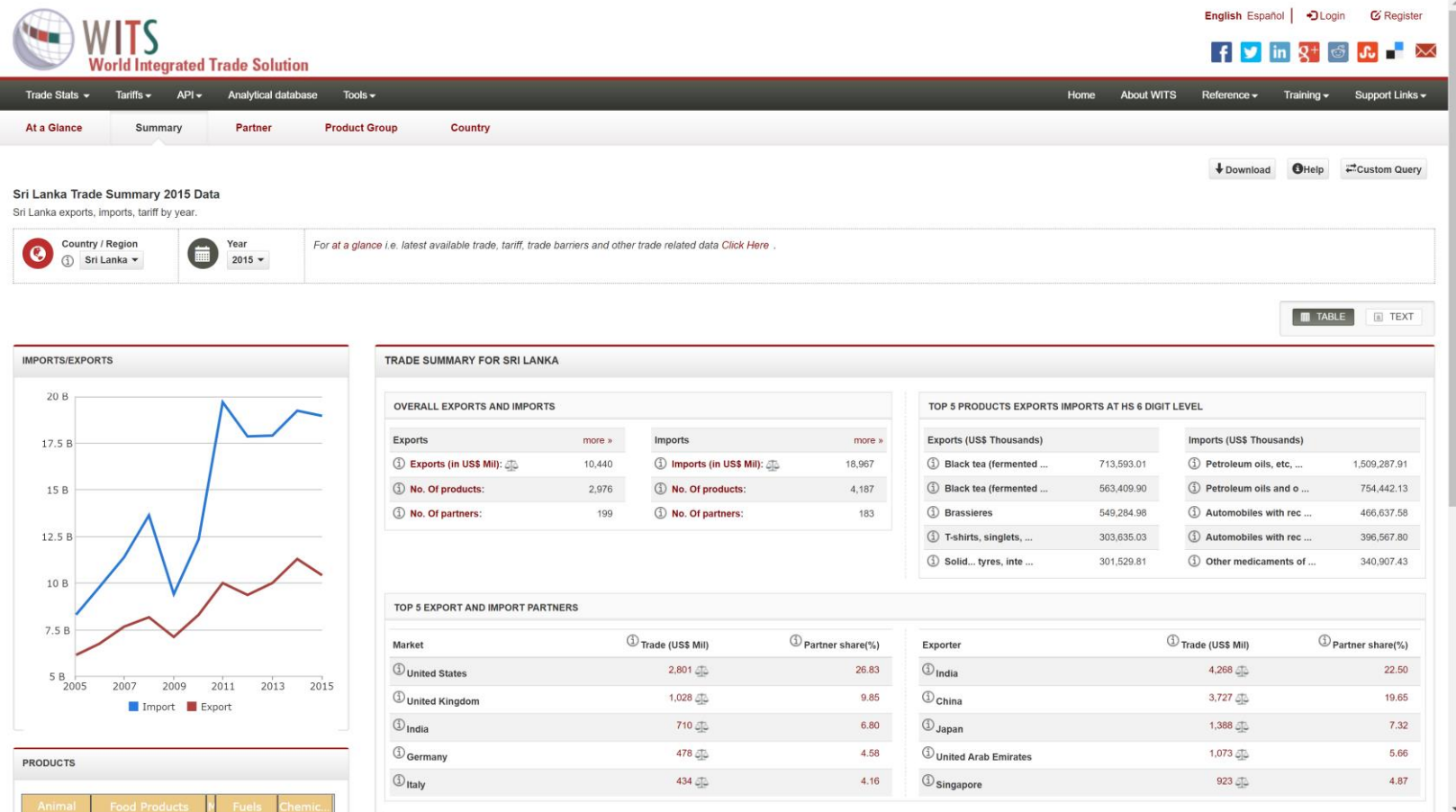
Ex Ante: Trade and Trade Policy Indicators

- How much of trade is intraregional?
 - Will the proposed FTA promote trade between trading partners?
 - Are they then “natural” trading partners?
- What is the comparative advantage of each member?
 - Which sectors are likely to have export (import) potential?
- Is export of a particular good regionally oriented?
 - How strong is a regional bias (if there is one)?
- How complementary is trade between a given pair of FTA members?
 - To what extent the export pattern of a country matches the import pattern of a region?
- What is a degree of similarity between partners’ exports?
 - To what extent a country’s export profile overlaps with other FTA members?

Analyzing trade flows

- Descriptive statistics in trade are typically needed to picture the trade performance of a country:
- How much does a country trade
 - Trade shares
- What does it trade
 - Product shares
- With whom
 - Partner shares

World Integrated Trade Solutions



<http://wits.worldbank.org/CountryProfile/en/Country/LKA/Year/2015/Summary>

Example: Export potential

Export Potential

FOR EXPORTER

Sri Lanka

IN MARKET

World

PRODUCTS

SECTORS

Q Search products by name/code...

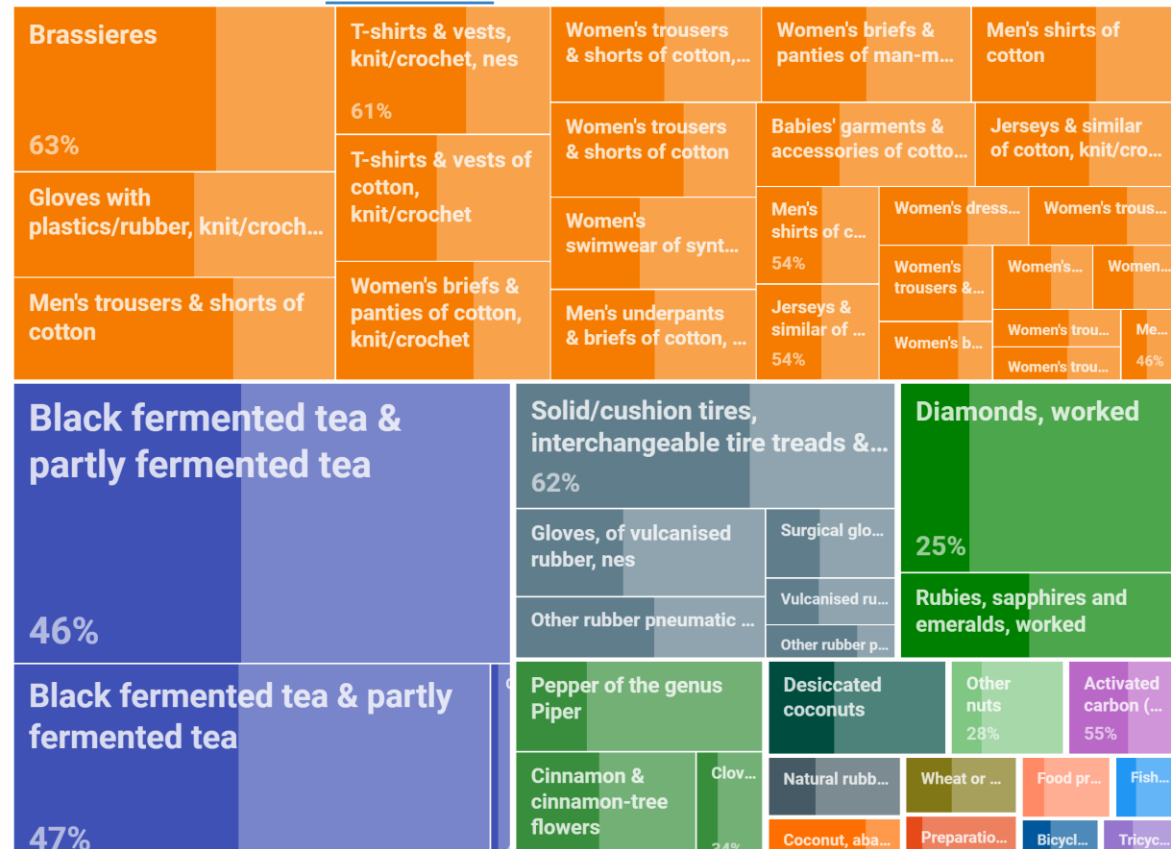
- ☐ Fish & shellfish
- ☐ Cereals (processed)
- ☐ Fruits
- ☐ Nuts
- ☐ Spices
- ☐ Other food products
- ☐ Vegetal residues & animal feed
- ☐ Tea & mate
- ☐ Chemicals
- ☐ Jewellery & precious metal arti...
- ☐ Natural latex & rubber

Spot export potentials with

TREE MAP

GAP CHART

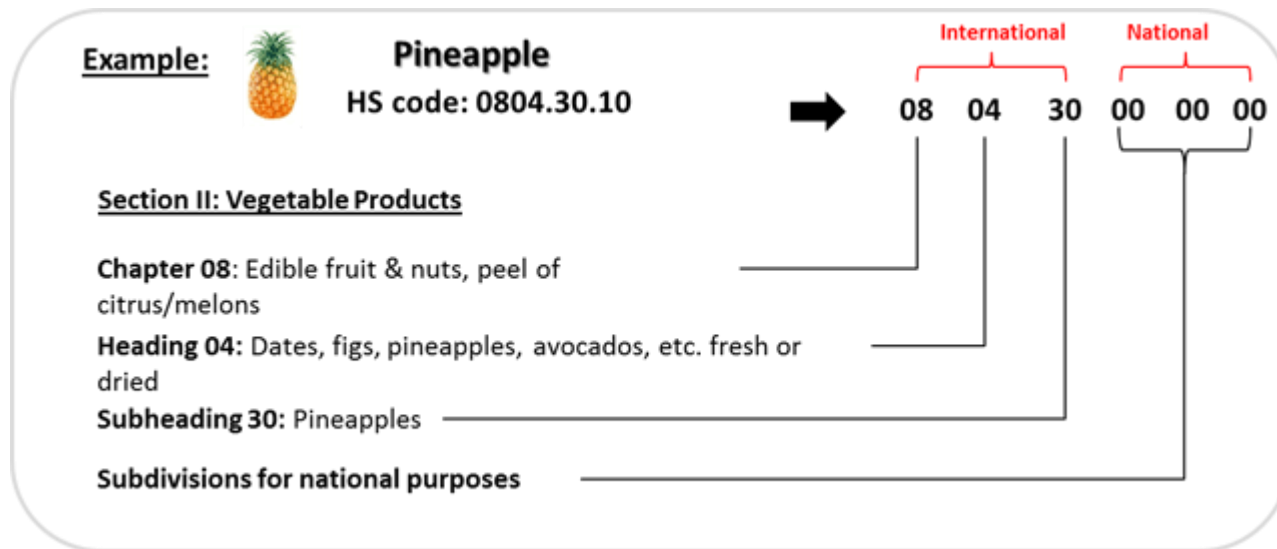
ANALYZE EXPORT POTENTIALS



<http://exportpotential.intracen.org/#/products/tree-map?fromMarker=i&exporter=144&toMarker=w&market=w&whatMarker=k>

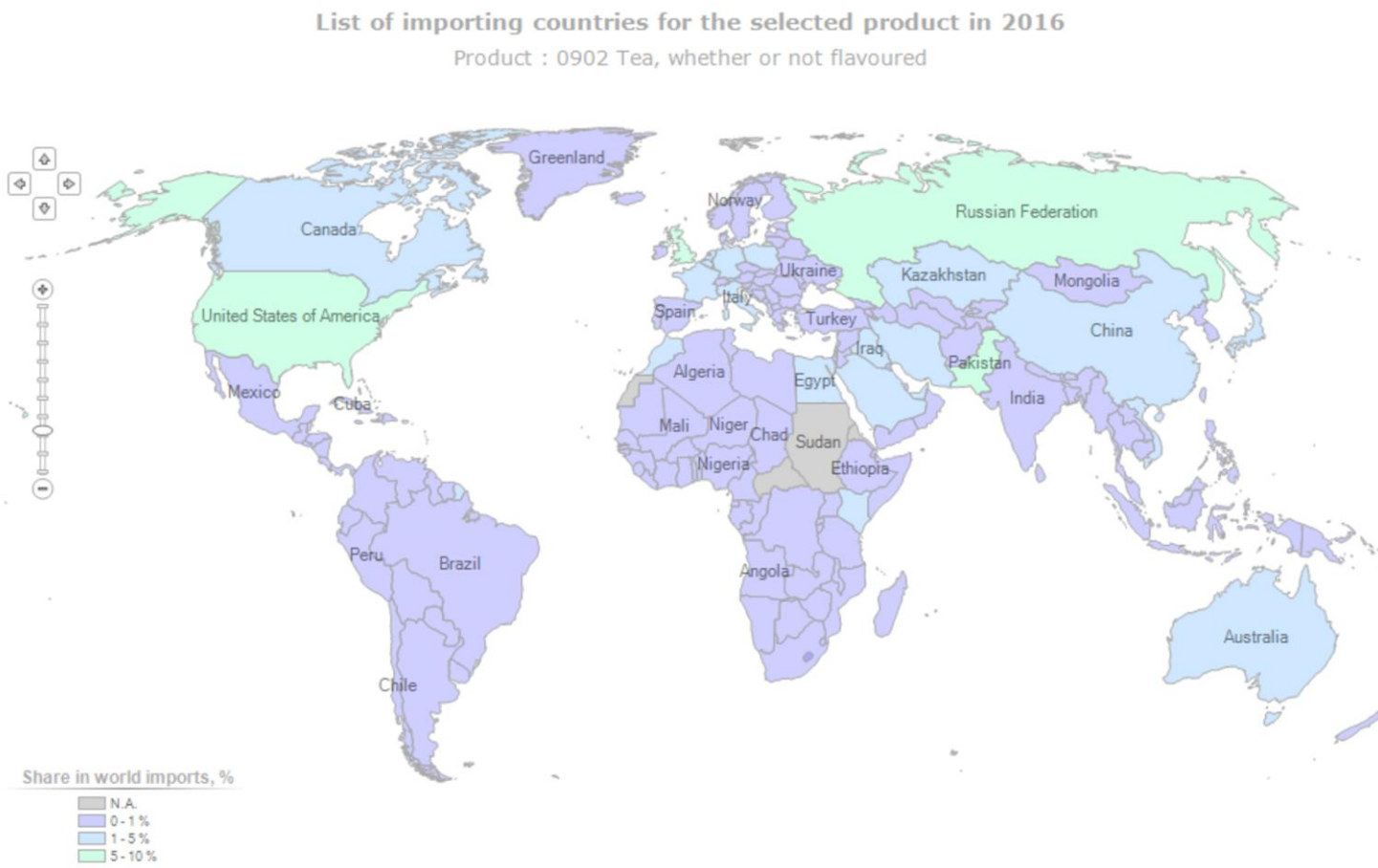
HS Codes

- <https://asycuda.org/onlinehs.asp>



Source: <https://cargofromchina.com/hs-code/>

Example: Import Shares (HS 0902)



[http://www.trademap.org/\(S\(h0befh3xia5hr2frzmu2zbvx\)\)/Country_SelProduct_Map.aspx?nvpm=1||||0902||4|1|1|1|1|1|2|1|1](http://www.trademap.org/(S(h0befh3xia5hr2frzmu2zbvx))/Country_SelProduct_Map.aspx?nvpm=1||||0902||4|1|1|1|1|1|2|1|1)

Example: Export Shares (HS 0902)



[http://www.trademap.org/\(S\(h0befh3xia5hr2frzmu2zbvx\)\)/Country_SelProduct_Map.aspx?nvp m=1||||0902|||4|1|1|2|1|1|2|1|1](http://www.trademap.org/(S(h0befh3xia5hr2frzmu2zbvx))/Country_SelProduct_Map.aspx?nvp m=1||||0902|||4|1|1|2|1|1|2|1|1)

TRADE INDICATORS

- Trade openness
 - trade-to-GDP, import penetration, export propensity....
- Trade performance
 - growth , trade balance, market shares, growth decomposition
- Geographical orientation of trade:
 - regional intensity, regional trade share
- Characteristics of trade
 - export diversification, intra-industry trade, import-content of exports, revealed technology content
- Trade opportunity/competitiveness
 - RCA, complementarity

Example: revealed competitive advantage

$$\text{Revealed Comparative Advantage}_{cg} = \frac{\left(X_{cg} / X_c \right)}{\left(X_{wg} / X_w \right)}$$

where

X_{cg} = exports of good g by country c

X_c = total exports of country c

X_{wg} = world exports of good g

X_w = total world exports

Trade policy indicators

- Tariff profiles: average tariffs, dispersion, effective protection
- Non-tariffs: frequency ratio, prevalence ratio
- Example : IPS study on China- Sri Lanka FTA
 - list of goods with comparative advantage of Sri Lanka vis-à-vis the world (566)
 - Does China import all these products ? (No, exclude 24)
 - How many products does it export to China already (243) ?
 - New market opportunities for Sri Lankan producers, manufacturers and exporters in 299 products.

MERITS AND LIMITATIONS

- Provides an overview
- Can lead to interesting policy questions.
- They cannot provide precise numbers that quantify the effect of an FTA on trade, production, consumption, or welfare
- Cannot determine the causes
- They can be misleading if data is unsuitably classified
 - Trade classifications do not match a country's production structure
 - Data often very aggregated

Partial equilibrium analysis

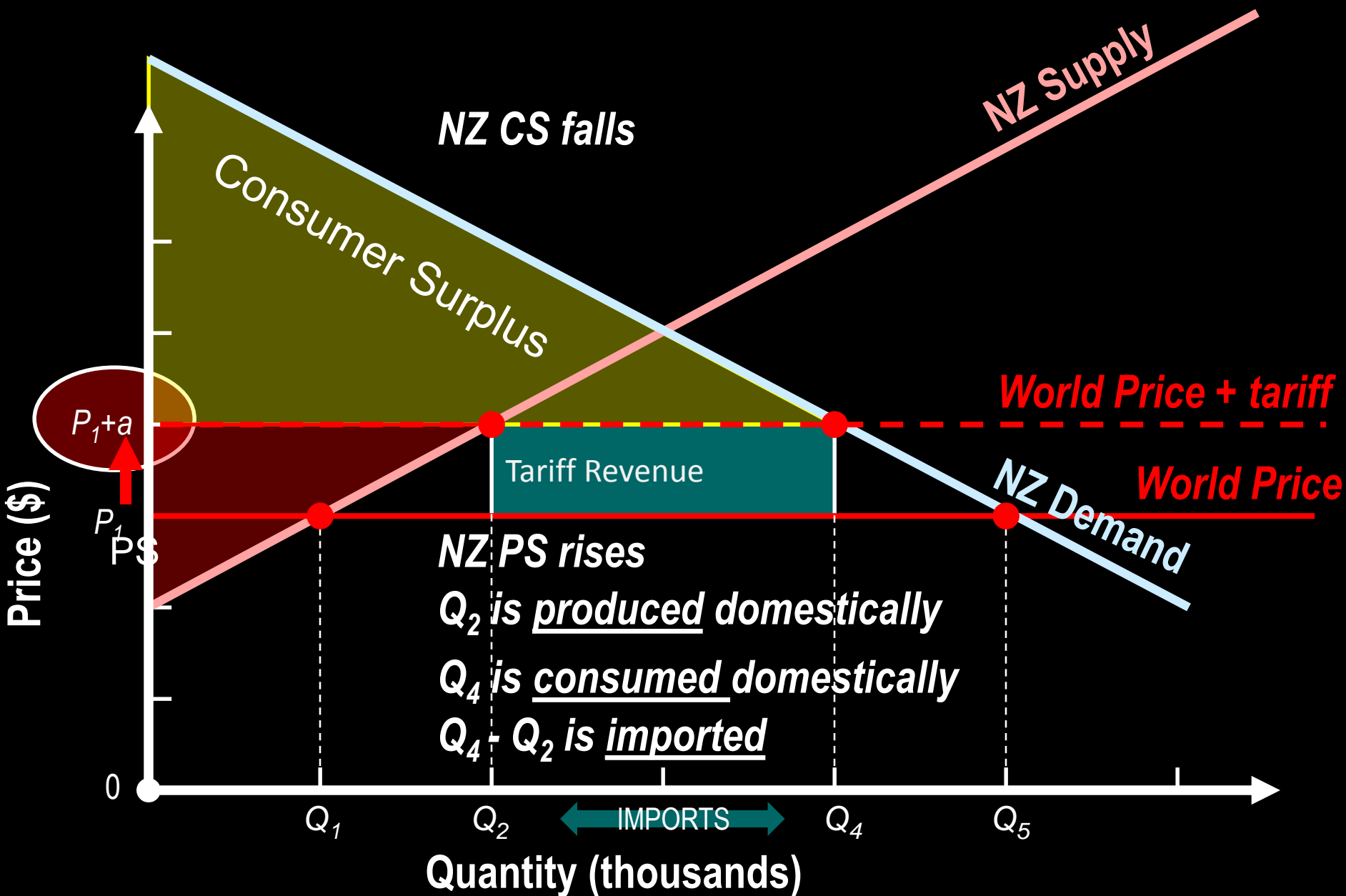
- How an FTA will affect trade flows for a single commodity?
 - What will be an import increase?
 - What will be an export increase of FTA partners?
 - What will be an export decrease of non-member countries?
 - What will be a fall in tariff revenue

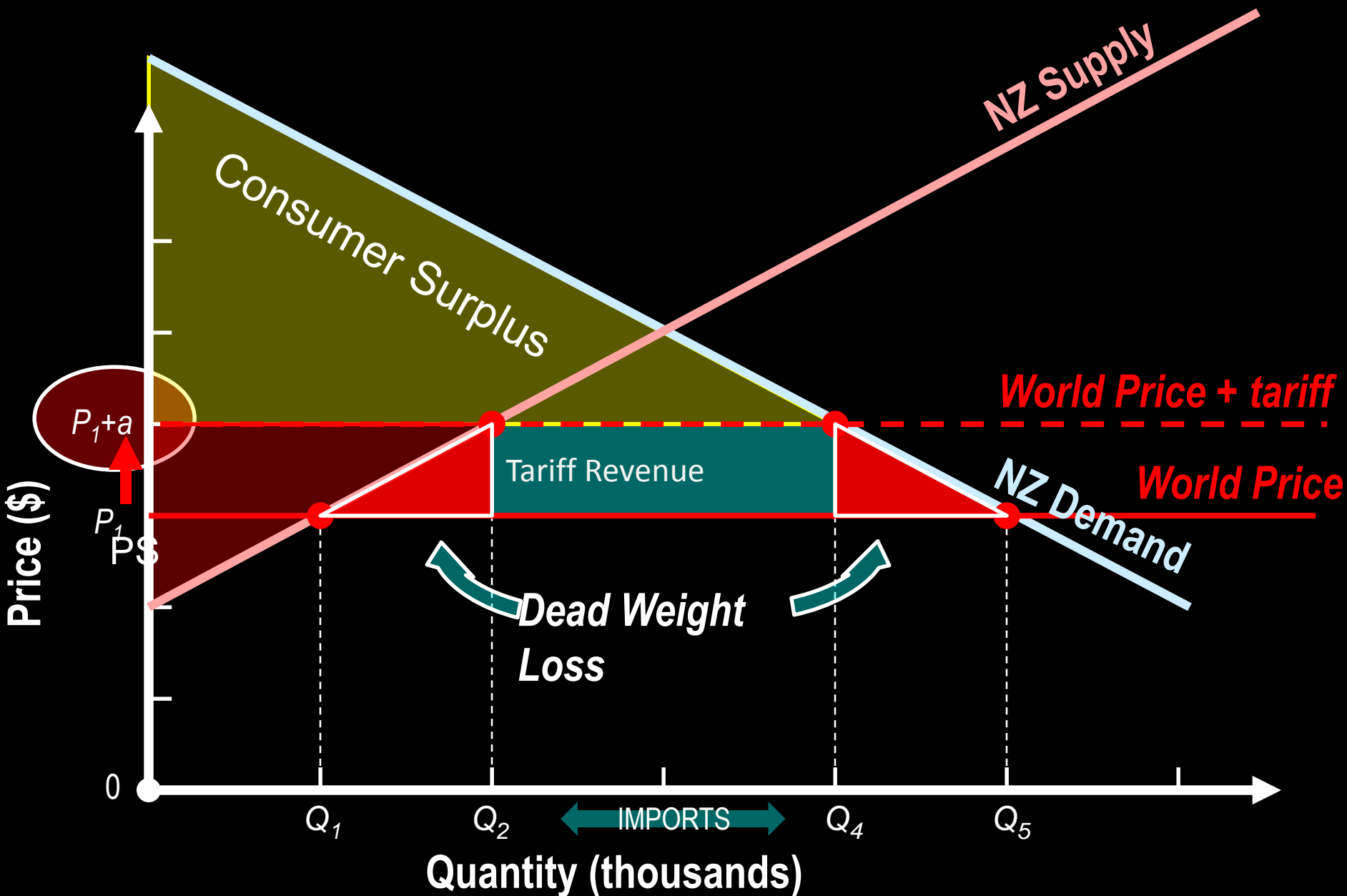
Direct effect of a trade policy change in a single market, ignores spill over effect, feedback effect

Reasons for focusing on an individual product:

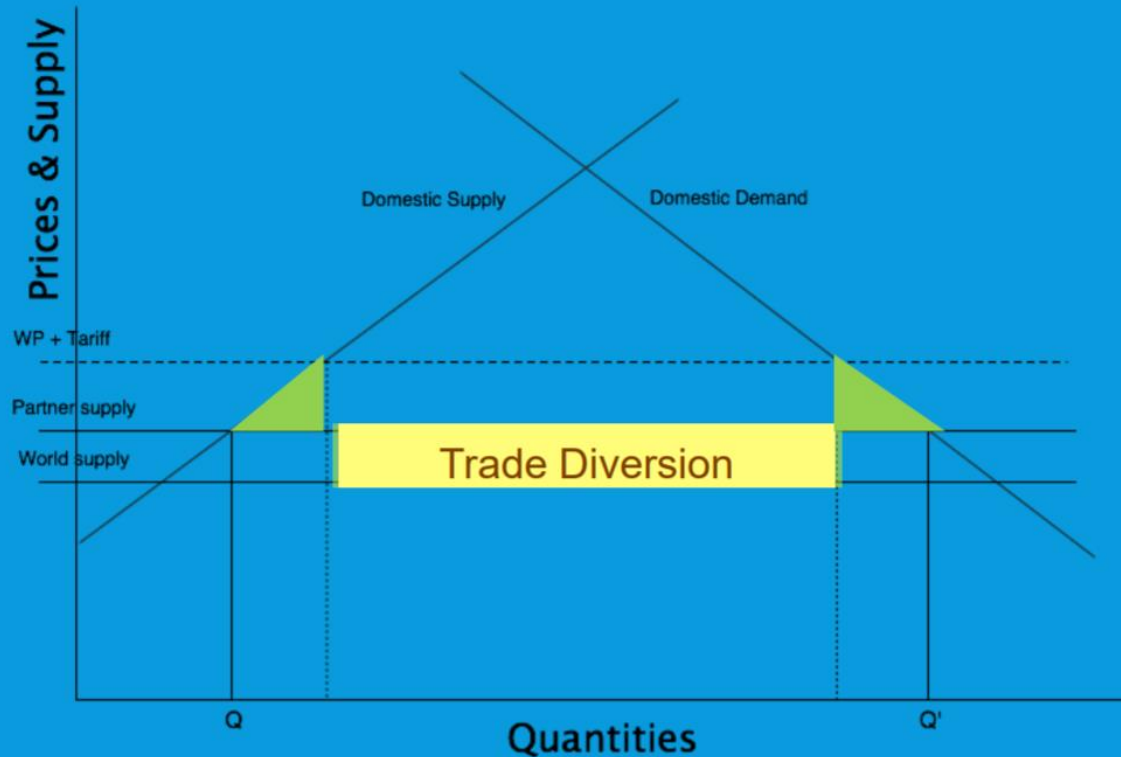
- Its trade is significant in the country's trade balance
- It generates substantial tariff revenue,
- It employs a large share of the country's workforce
- Its output contributes significantly to GDP
- Firms in the sector may be important political players
- It may be located in an important region of a country

The in-depth analysis at the level of individual industry or product makes partial equilibrium (PE) approach more appropriate





Trade Diversion and Trade Creation

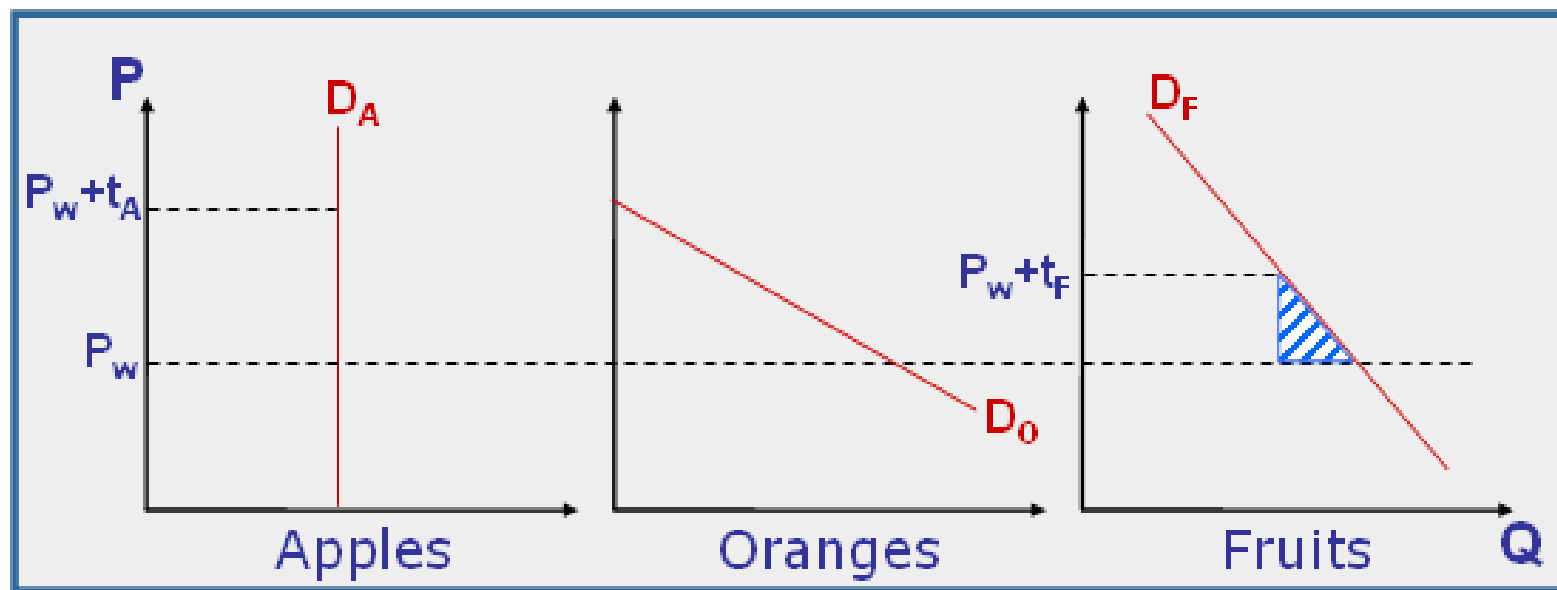


Summary: the net trade effect depends on whether the loss of efficiency due to diversion (yellow rectangle) is greater or less than the gains in efficiency (green triangles).

BASICS OF PARTIAL EQUILIBRIUM (PE) ANALYSIS

- Partial equilibrium implies that the analysis only considers the effects of a given policy action in the market(s) that are directly affected. That is the analysis does not account for the economic interactions between the various markets in a given economy.
- The main advantage of the partial equilibrium approach to Market Access Analysis is its minimal data requirement. In fact, the only required data for the trade flows, the trade policy (tariff), and a couple of behavioral parameters (elasticities).
- Another advantage (which follows directly from the minimal data requirement) is that it permits an analysis at a fairly disaggregated (or detailed) level. For example, it allows the study of the effects of the liberalization of “brown rice” imports by Madagascar, a level of aggregation that is neither convenient nor possible in the framework of a general equilibrium model. This also resolves a number of “aggregation biases”

Illustrating the aggregation bias



Example China – Sri Lanka FTA

- Joint feasibility study (JFS) using PE models
- The JFS analysed how the FTA will affect the Rubber Products – an important sector for Sri Lanka
- Findings :
 - Sri Lanka's exports to China will greatly increase with liberalization of trade in rubber products.
 - China's imports of rubber products from Sri Lanka to increase by USD 22.09 million after the complete liberalization of trade : increase in export of 120 %.
 - Import by Sri Lanka to increase : exports from China increasing by 17%

The disadvantages of partial equilibrium modeling

- The partial equilibrium approach also has a number of disadvantages that have to be kept in mind while conducting any analysis. Since it is only a “partial” model of the economy, the analysis is only done on a pre-determined number of economic variables. This makes it very sensitive to a few (badly estimated) behavioral elasticities.
- Due to their simplicity also, partial equilibrium models may miss important interactions and feedbacks between various markets. In particular, the partial equilibrium approach tends to neglect the important inter-sectoral input/output (or upstream/downstream) linkages that are the basis of general equilibrium analyses. It also misses the existing constraints that apply to the various factors of production (e.g., labor, capital, land...) and their movement across sectors.

Input / Output Analysis: an example

	Intermediate Use			Final Use		
	Agriculture	Manufacturing	Power	Household Consumption	Exports	Total output
Agriculture	20	15	0	60	60	155
Manufacturing	15	15	5	90	15	140
Power	10	40	5	10	0	65
Imports	5	5	0	0	0	10
Labour	50	5	5	0	0	60
Capital	55	60	50	0	0	165
Total Inputs	155	140	65	160	75	595

Input / Output tables

- Disadvantages:
 - input supply is unconstrained, meaning there is assumed to be an infinite amount of land, labour and capital available to each sector.
 - I/O analysis does not incorporate prices, thus, for example, more intensive use of land does not translate into higher land prices, and hence firms do not experience higher costs.
 - Another consequence of price exclusion is that there is assumed to be no substitution effect between goods.
 - I/O based models are inherently closed economic representations – any export/import shocks are exogenously introduced.
 - As a result, Input/Output models have been shown to consistently overestimate the impact of various shocks.
- CGE methodology addresses all of these issues and more.

Computable General Equilibrium Models

- What are the macro-level impacts of an FTA (when interactions between all markets are accounted for)?
 - real GDP
 - trade balance
 - terms of trade
 - import and export prices in a particular sector
 - output and trade in different sectors within the country
 - national welfare (and where will these welfare effects come from?)
- The multi-sectoral trade liberalization makes CGE approach more appropriate
- It combines direct effects of tariff reductions in individual markets with indirect changes in related markets
- Most famous CGE trade model: **GTAP**

LIMITATIONS OF CGE

- High level of aggregation
- A difficult “Black box”
- Heavy data requirements
- Sensitivity to assumptions and data

EX-POST IMPACT ASSESSMENT

- Were the preferences utilized?
- Did the FTA raise welfare of the country in question?
- What were the channels of transmission of FTA-triggered trade flows changes to households' welfare?

WERE THE PREFERENCES UTILIZED?

- Preference margin also known as MOP (the attractiveness of a preferential regime relative to MFN treatment)
 - MFN-FTA tariff
 - The compliance cost has to be lower than the preference margin for exporters to utilize the preferences.
- They do not identify the reasons behind the results thus, firm survey may be used to fill the gap

Gravity Models

- The gravity model is an econometric method of estimating trade flows
- Tinbergen (1962) compared the size of bilateral trade flows any two countries to the gravitational force in physics between two objects.
- Since then, many theoretical models that yield the gravity equation for trade has been produced.
- It was used to analyze the impact of FTAs, GATT-WTO membership, TBTs, NTBs, currency unions, etc. on trade flows.
- The main advantage is that it can control for the effects of other trade determinants besides the FTA, and can therefore isolate the effects of the FTA on trade.

Advantages of gravity models

- Data for the gravity model is widely available
- The model has a high level of explanatory power
- Although a theoretical gravity model could be complicated, there are established standard practices that facilitate the work of researchers
- It allows controlling for other trade-related variables and quantify any changes in a country's trade due to the FTA
- These quantitative estimates may then be used in welfare calculations

OTHER EX-POST APPROACHES

- Use of sample survey data :
 - estimate exposure of households or enterprises to trade policy, industry where they are employed,
 - estimate impact of trade policy on poverty, inequality, productivity, gender impact etc.
 - Uncover mechanisms of impact

Conclusion

- Explore complementarities of methods
- Test applicability of underlying assumptions especially in developing country settings
- Supplement with stakeholder consultations
- How to integrate Impact Assessment with 'sustainability' impact assessments ?
- Unquantifiable but strategic impacts
- Technology transfer and diffusion
- Macro economic and political stability
- Structural reform and capacity building