

# Welfare Considerations of the Economic Partnership Agreement: A CARIFORUM Perspective

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# Format

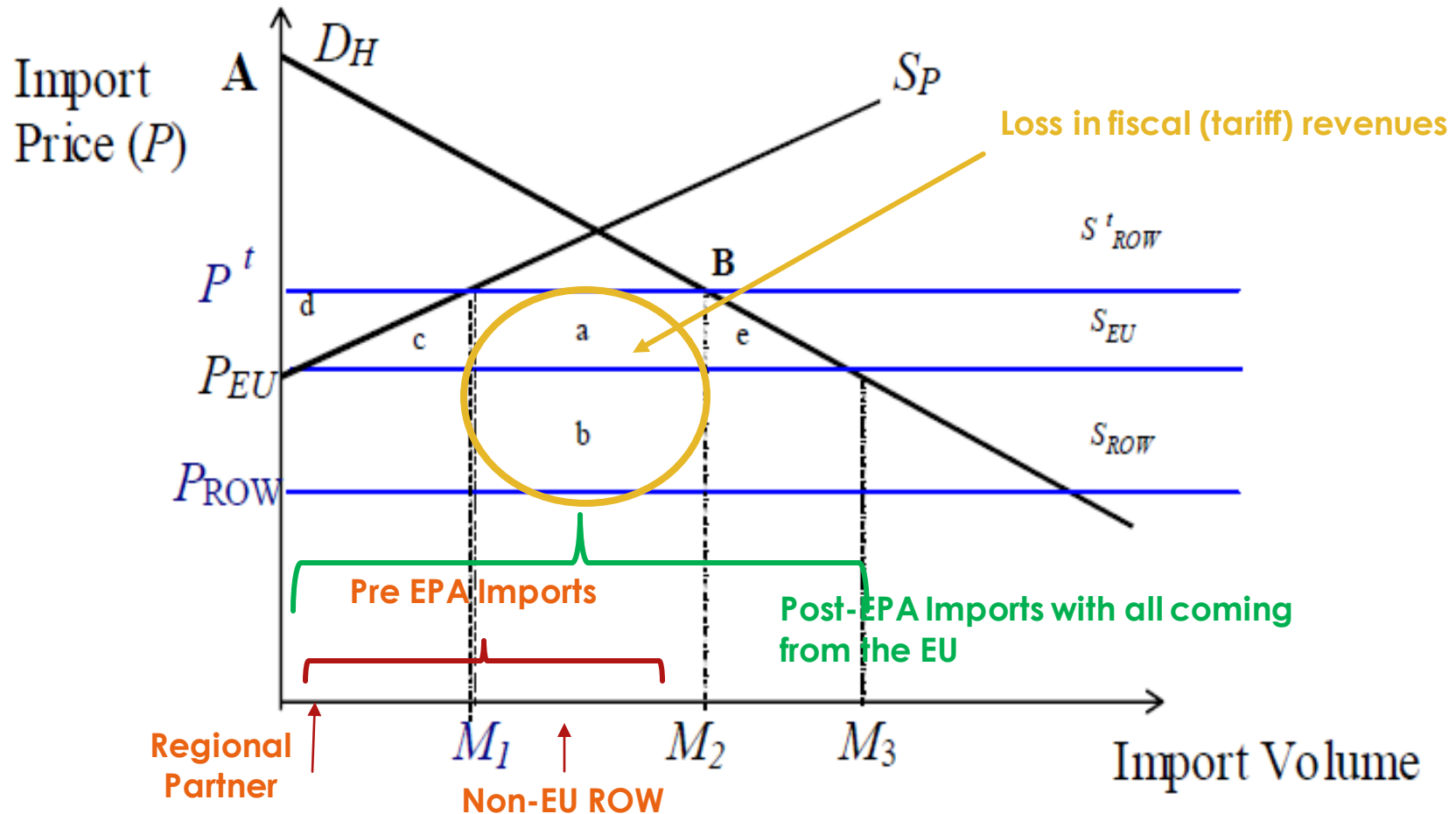
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# Introduction

- ▶ Generally researchers sought to profile the impact of a change in policy on trade, welfare and government revenues (considering the loss in tariff revenues).
  - ▶ The models applied in these studies can be categorized generally as general equilibrium models or partial equilibrium models.
  - ▶ Notwithstanding that general equilibrium models provide a more comprehensive picture of economic impact, for many ACP countries, sector specific data challenges exist. As a consequence, most of the past and ongoing research applies a partial equilibrium approach to evaluating the trade and welfare impacts of the agreement.
- ▶ Partial equilibrium models compare trade creation and trade diversion effects as a basis for the measurement of welfare.
  - ▶ The generalized assumption is that tariff reductions will be translated into reductions in the price of the final product to consumers.
  - ▶ Although the partial equilibrium model does admit some challenges, the application does provide a basis of conjecture in comparing the impact of liberalization across countries or overtime for a single economy.

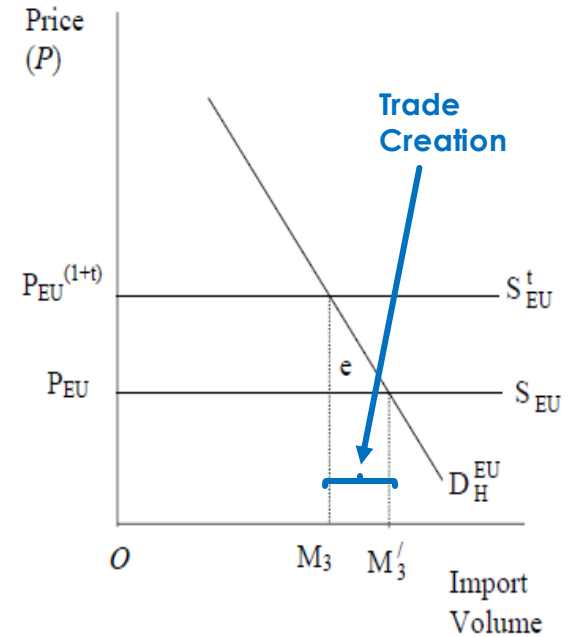
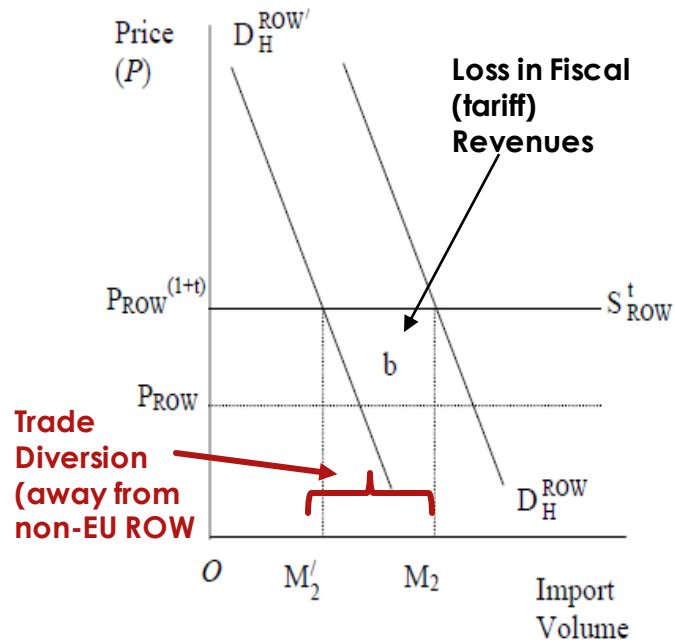
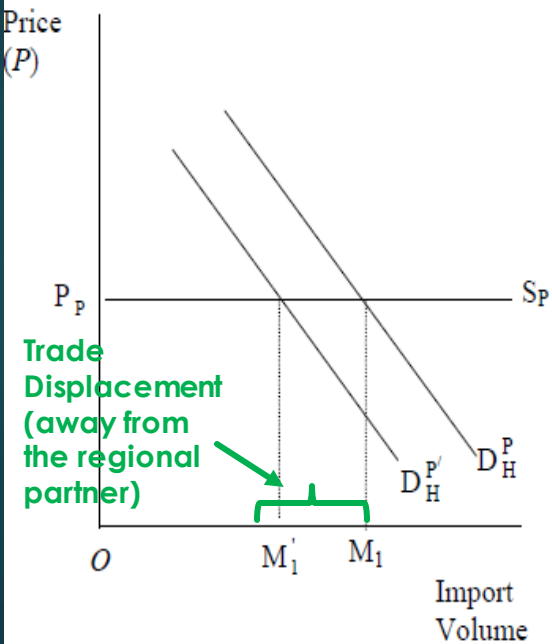
# Methodologies

Greenaway and Milner (2003) – Perfect Substitution Assumption



# Methodologies

## Greenaway and Milner (2003) – Imperfect Substitution Assumption



# Methodologies

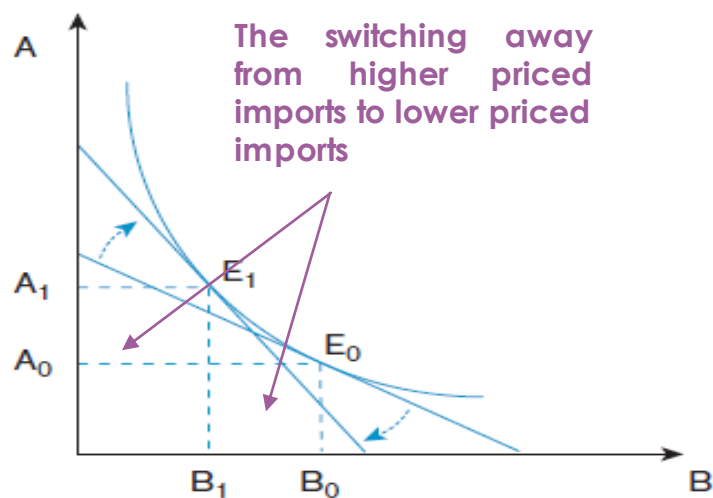
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## SMART / WITS

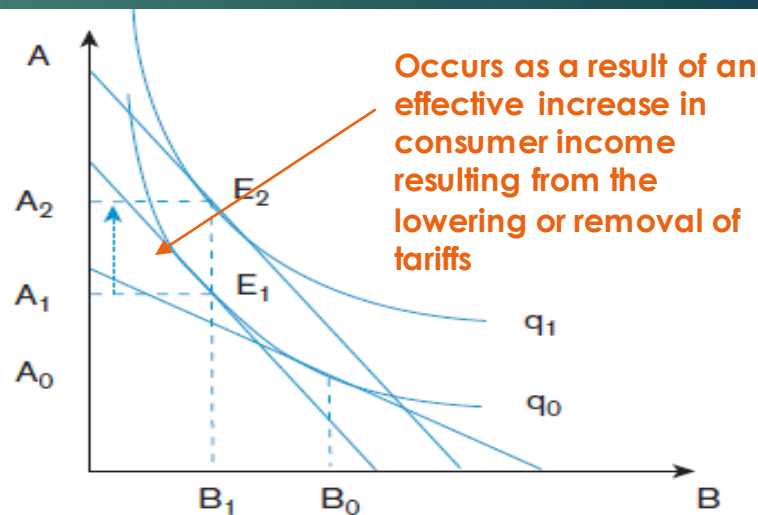
SMART is a partial equilibrium model which was developed by the UNCTAD and the World Bank during the 1980s to evaluate the impact of the GATT rounds on participating economies. SMART is accessed via the World Integrated Trade Solutions software.

## SMART / WITS

### Trade Creation and Trade Diversion Effects



(a) Trade diversion



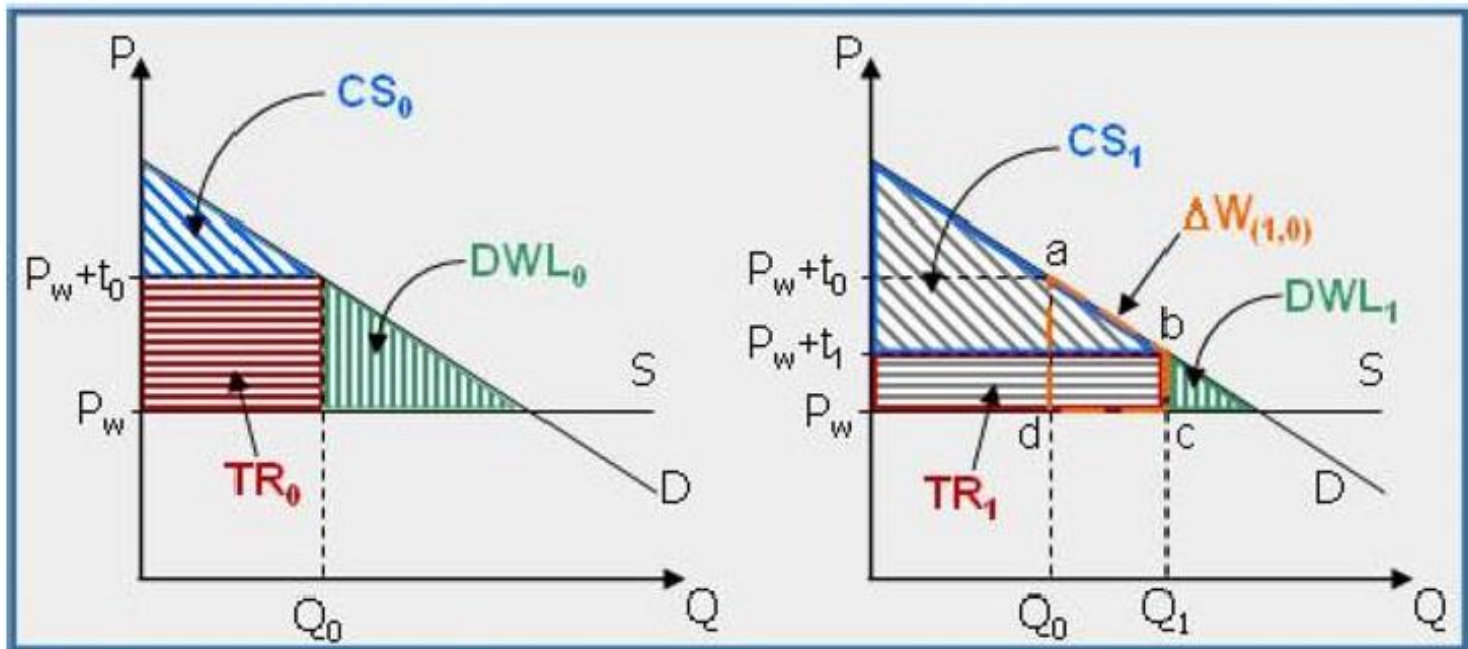
(b) Trade creation

# Methodologies

SMART / WITS

Tariff Revenue, Consumer Surplus and Welfare Effects

*Impact of Reducing a Tariff from  $t_0$  to  $t_1$*



# Methodologies

## ▶ TRIST

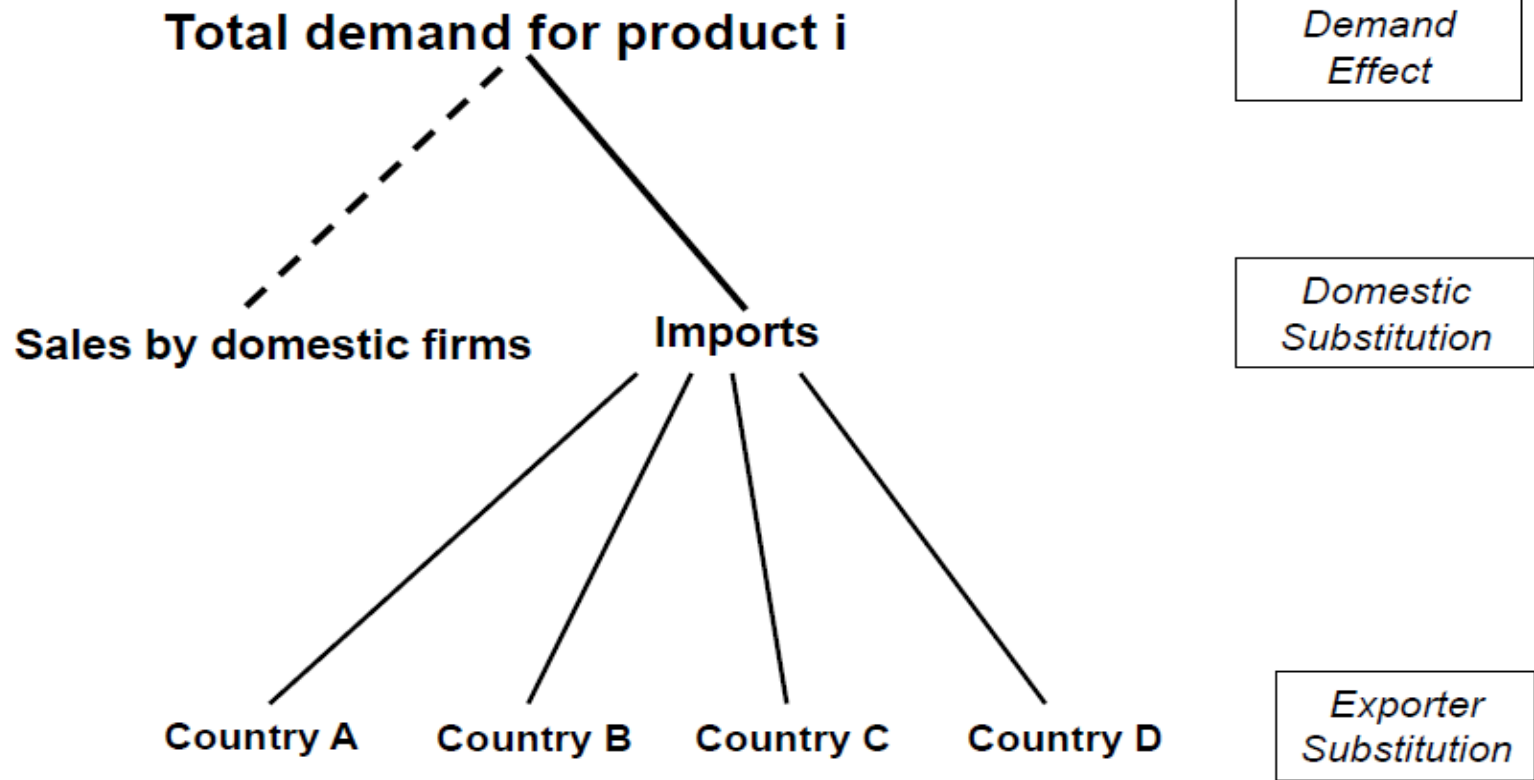
- ▶ Developed by the World Bank in response to requests for a more detailed analysis of adjustment costs associated with tariff reform.
- ▶ The most immediate concern of developing countries in these situations is revenue impact (fiscal impact).
  - ▶ As such the tool is built not only to evaluate the impact of revenue changes emanating from tariff adjustments but also in terms of VAT, excise taxes and other import duties.
- ▶ TRIST can also be used to evaluate the impact on domestic production and employment levels if the commodity is produced domestically as well as imported.



# Methodologies

▶ TRIST

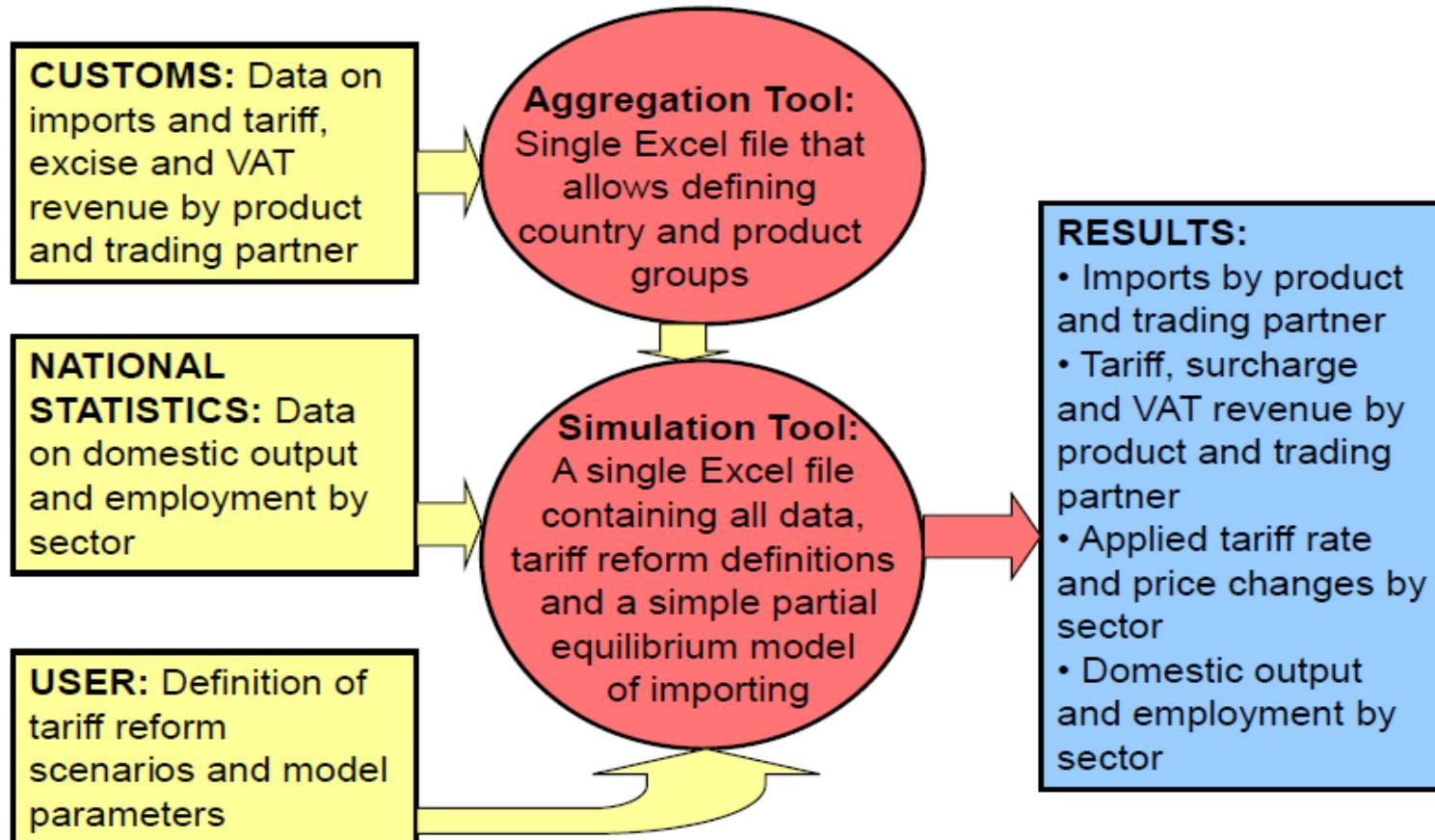
## Structure of the trade model in TRIST



# Methodologies

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## ► How TRIST works?



# Methodological Comparisons

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	<b>Greenaway and Milner</b>	<b>WITS / SMART</b>	<b>TRIST</b>
Model	Imperfect substitution based on Armington Theory	Imperfect substitution based on Armington Theory	Imperfect substitution based on Armington Theory
Input data	SITC 2 digit	HS data (up to 6 digit)	HS data (up to 8 digit) ISIC data can also be used
Number of Markets Considered	3 – Partner Country, EU and Non-EU Rest of the World	2 – EU and the Non-EU Rest of the World	The system can consider up to 14 trade blocs (including ROW)
Import Demand Elasticities	Stern et al 1974	Empirically estimated for each country up to HS 6 digit level – (Kee et al 2008)	Use a default of 0.5
Import Source Substitution Elasticities	Global Trade Analysis Project (GTAP) behavioral parameters (Hertel et al 1997)	Uses a default of 1.5	Use a default of 1.5
Elasticity of Supply	Not empirically considered by Greenaway and Milner but the model framework assumes that supply is infinitely elastic	Uses a default of 99 representing infinite elasticity of supply	Not explicitly considered but implicitly assumes infinite supply.

# Our Work and Theirs..... Greenaway and Milner

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- ▶ Hosein 2008 – Impact of EPA on T&T reports

	Trade creation with the EU	Substitution in CARIFORUM imports	Substitution in nEUROW imports	Total increase in imports from the EU	Increase in extra regional imports	Increase in imports from all sources
Greenaway and Milner (2003) estimates using 1998 data:						
	160.85	69.80	26919.3	2849.2	222.93	160.85
<b>Table 5b: EPA with CARIFORUM including site 3</b>						
1991	64.8	47.7	974.7	1087.2	112.5	64.8
1998	163.8	71.1	2595.4	2832.3	234.9	163.8
2005	266.8	86.1	5506.7	5859.6	352.9	266.8

Our estimates for T&T for 2008....(\$Ecmn)

	Trade Creation Effect EU (Change in M3)	Trade Displacement CARIFORUM (Change in M1)	Trade Diversion Effect nEUrow (Change in M2)
2008	437.26	(101.76)	(8,851.34)

- ▶ The UWI (2013) discusses the impact of the EPA on select CARICOM economies

## REVENUE AND WELFARE EFFECTS OF 5 CARIFORUM COUNTRIES FROM THE EPA WITH EU

*(Millions of dollars)*

	Gross Welfare (CS)	Change in Revenue	Change in Net Welfare
Dominican Republic (2010)	17.229	-106.546	-89.317
Guyana (2011) <sup>22</sup>	1.945	-12.983	-11.039
Saint Kitts (2009)	0.326	-1.809	-1.483
Saint Lucia (2007)	1.174	-10.699	-9.525
Barbados (2007)	6.110	-29.579	-23.468

Source: Simulations using WITS, SMART and authors' own calculations

- ▶ Our estimates are... (\$USmn)

	Change in Revenue	Change Welfare
Barbados (2008)	(23.03)	(19.61)
Guyana (2014)	(8.76)	(7.05)
St Kitts (2008)	(2.70)	(2.44)
St Lucia (2008)	(6.12)	(5.38)

# Our Work and Theirs.....TRIST

- ▶ Lorde and Alleyne (2016) used Barbados as the case study to undertake an analysis of the impact of the EPA on the trading relations of that economy. The paper used 2013 data.
  - ▶ The paper found that trade diversion from the CARICOM was \$BD 0.44 mn, and from the rest of the world \$BD 1.01 mn.
- ▶ Our calculations for 2015 for Barbados estimates trade diversion from CARIFORUM to be \$BD 0.44mn and from the rest of the world \$BD 11mn.

# Trade and Fiscal Impacts

(Average of SMART and TRIST Results (mnUS\$))

		Trade Displacement	Trade Diversion	Trade Creation	Change in Fiscal Revenue
Antigua and Barbuda	2009	(7.43)	(4.83)	5.32	(7.97)
	2015	(0.65)	(3.29)	3.50	(7.38)
Bahamas	2008	(0.02)	(8.75)	12.12	(18.79)
	2014	(0.03)	(6.04)	6.26	(14.12)
Barbados	2008	(0.95)	(11.17)	12.03	(23.48)
	2015	(0.96)	(7.98)	10.73	(25.66)
Belize	2008	(0.05)	(1.57)	1.25	(2.87)
	2014	(0.01)	(2.82)	7.06	(11.23)
Dominica	2008	(0.19)	(0.98)	0.99	(2.19)
	2012	(0.23)	(1.02)	1.03	(2.27)
Grenada	2008	(0.50)	(2.14)	2.11	(4.42)
	2009	(0.30)	(0.74)	1.24	(2.42)
Guyana	2008	(0.74)	(3.54)	7.81	(10.34)
	2014	(1.03)	(3.60)	6.38	(9.01)
Jamaica	2008	(1.23)	(20.88)	19.52	(41.15)
	2014	(1.93)	(28.70)	25.39	(50.92)
St Kitts	2008	(0.18)	(1.20)	1.15	(2.63)
	2011	(0.12)	(1.03)	0.78	(1.87)
St Lucia	2010	(0.65)	(1.91)	3.22	(5.96)
	2014	(0.23)	(1.75)	2.36	(4.90)
St Vincent	2008	(0.48)	(1.97)	2.15	(4.26)
	2011	(0.47)	(1.87)	1.93	(3.89)
Suriname	2008	(2.45)	(11.75)	20.02	(36.74)
	2014	(2.64)	(12.30)	21.26	(39.00)
Trinidad	2010	(0.90)	(31.03)	53.84	(74.76)
	2012	(0.68)	(30.79)	27.57	(52.69)

- ▶ The paper reviews the trade and fiscal impact of the EPA on CARICOM economies utilizing 3 methods for evaluating the same. Though the results vary in terms of magnitude across the methods, the trends in point to the same conclusions;
  - ▶ While trade with the EU is expected to rise, imports from CARIFORUM and the Non-EU ROW is expected to fall.
    - ▶ With particular reference to the likely fall off in imports from CARIFORUM, the goal of the EPA to encourage intra-regional trade can be questioned.
    - ▶ Regional development may be compromised if trade is diverted away from Non-EU natural trading partners



- ▶ Each method applied, resulted in a fall off in fiscal revenues for all countries identified.
  - ▶ Other revenue generating interventions need to be put in place in the medium to long term
    - ▶ Local development production planning for the economy
    - ▶ Diversification of markets as a deliberate strategy
  - ▶ The agreement does provide facilities for “aid for trade” and other development assistance. Access to these funds should be better leveraged.
  - ▶ Development of the regional private sector must be a priority
    - ▶ Addressing non-tariff barriers to entry to the EU market
    - ▶ Trade in niche services to the EU can be expanded

*Thank you for your  
attention  
Questions and Comments*