

Guyana's Pre-EPA Rough Rice Supply Response Function: Post-EPA Implications

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Objectives

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- To review the trading environment governing Guyana's rice exports to the European Union (EU) with a view of assessing and analysing the implications of trade liberalization on this market.
- To estimate Guyana's pre-EPA rough rice supply response function using an adapted Nerlovian approach.
- To use the findings as the basis for informing policy prescriptions post-EPA.

Guyana's Rice Market

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- Rice is ranked 4th among exported commodities, after gold, aluminium and sugar.
- In 2008, 37.2% of the value of Guyana's rice exports was directed to the EU. By 2010, this was reduced to 27.8%.
- Guyana is the 13th largest exporter of rice in the world in 2010 and the largest exporter of rice within CARICOM.
- Traditionally, Guyana's rice exports were sent to the EU directly and via the Overseas Countries & Territories (OCT) route (1990-1996).
- From 1996 onwards, however, the preferential trading arrangements would have been phased out in line with WTO requirements crippling rice exports to the EU from 90% of total rice exports to only 19% in 1997.

Guyana's Rice Market (2008)

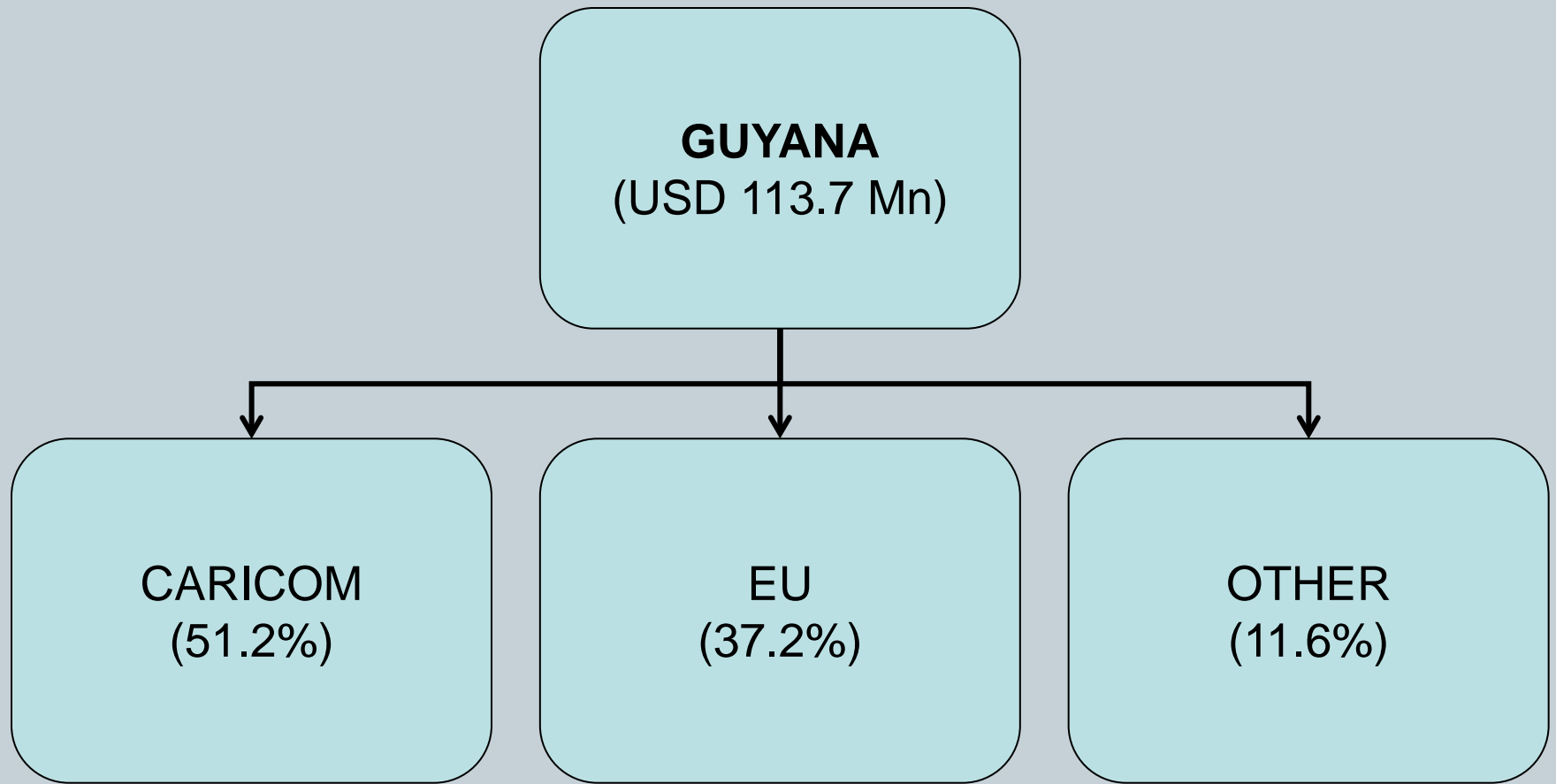
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GUYANA
(USD 113.7 Mn)

CARICOM
(51.2%)

EU
(37.2%)

OTHER
(11.6%)



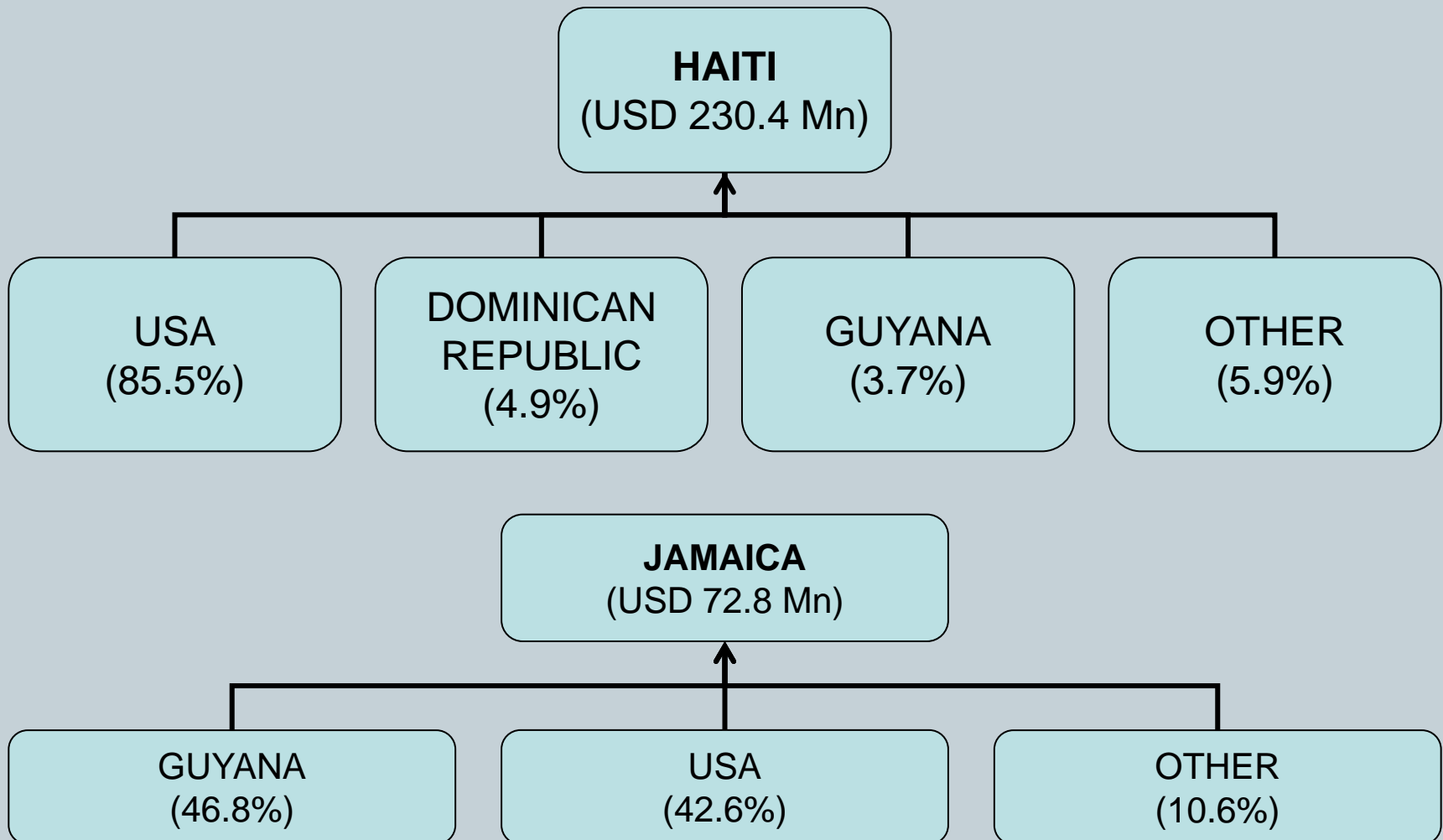
Guyana-EU Rice Market

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- Until 2009 Guyana, as part of the ACP group, benefited from the Cotonou agreement by having preferential market access to the EU.
- Although this preferential treatment ended in 2008, the non-reciprocal trade preference was retained for a transition period to 2009 with duty-free quotas being granted.
- With the EU adopting *Agenda 2000*, they are implementing more WTO-compatible programmes.
- LDCs, however, had the option to reject an EPA and continue trade relations under the EBA.

CARICOM's Largest Rice Importers, 2008

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The Nerlovian Supply Response Function

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- Introduced in the seminal work of Marc Nerlove in 1958 and has been used extensively.

- General Form (OLS):

$$A_t = b_0 + b_1 P_{t-1} + b_2 A_{t-1} + b_3 A_{t-2} + b_4 Z_t + b_5 Z_{t-1} + v_t$$

- Adapted Form:

$$LQ_t = b_0 + b_1 LP_{t-1} + b_2 LQ_{t-1} + b_3 LQ_{t-2} + b_4 DUMMY_t + v_t$$

Variables Used

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Variable	Long Name	Source	Description
P	Export price of rice	IRRI World Rice Statistics	US\$ per tonne (free on board)
Q	Rough rice production	IRRI World Rice Statistics	Thousands of tonnes per year
DUMMY	Rainfall dummy	Hydrometeorological Service (Hydromet) of the Guyana Ministry of Agriculture	Millimeters of rainfall per year converted to a dummy variable

Results

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$$LQ_t = 0.24 + 0.11LP_{t-1} + 0.61LQ_{t-1} + 0.25LQ_{t-2} - 0.06DUMMY_t$$

- **Price:** insignificant with a p-value of 0.2578
- **Quantity:** significant with p-values of 0.0002 and 0.1004 respectively
- **Rainfall:** insignificant with a p-value of 0.4024
- **Model:** significant with a p-value for the F-statistic of 0.000
- **PES:** +0.096 (short run) and +0.663 (long run)

Discussion of Results

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- Guyana's rough rice production is not dependent on the prices that prevailed in the market, thus indicating some degree of inelasticity in supply since farmers are dependent on rice production for economic subsistence and as a direct result of the non-reciprocal trade preferences to EU markets that Guyana enjoyed under the Lomé Convention.
- Rice producers were allowed to become X-inefficient in the presence of secure output markets.
- The PES values indicate the relative inelasticity of the supply function of Guyanese rice farmers.

Post-EPA Considerations

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- The results probably confirm why Guyana was hesitant to sign on to the EPA with the October 31, 2008 deadline. Failure to agree would have caused Guyana's exports to be slapped with higher entry tariffs.
- Proper measurability and predictability of potential gains must be addressed since past pricing schemes and rice output are not seemingly related.
- Limão and Olarreaga (2006) questioned the effectiveness of preferences in generating additional exports. Although the EU may have been a lucrative vent for Guyana's rice exports, hedging the future on the past may not be a reliable indicator.

Post-EPA Considerations

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- The socio-economic repercussions of trade liberalization have a significance that is difficult to quantify and model in trade agreements.
- Increased trade activity compensating for the loss in tax revenues with liberalization may only be applicable in theory as expected results may differ from what is actually realized in a trading environment that fosters lean and efficient global producers.
- The impact of natural disasters on neighbouring export markets cannot be understated, especially in light of the Haitian experience.

The Way Forward

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- Use market forces to guide production and investment activity – **case of corn in the USA**
- Target intra-regional markets
- Develop new export markets extra-regionally
- Invest in research and development
- Increase government support – **USA agribusiness is highly subsidized**
- Improve competitiveness
- Develop the services sector
- Improve human resources and information systems – **data collection, revised role of statistical bodies in the region – institutional strengthening & capacity building in this area**
- Conduct periodic reviews and assessments

Closing Remarks

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- Thank you for your attention.