



## ***The Evaluation of the 2007 CARICOM Port-of-Spain NCD Summit Declaration***

### **CHAPTER 8: Financing NCD Prevention & Control in CARICOM: Potential Roles of Tobacco and Alcohol Taxes**

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**February 24, 2016**



# Presentation Outline

- Study Background
- Methodology and Data Collection
- Simulations
- Results
- Summary of Findings

# Study Background

- Port of Spain Declaration on NCDs highlights the need to take action on alcohol and tobacco.
- The Declaration recommends the public revenue derived from tobacco and alcohol should be to fund NDC response.

# Study Background

- Study *“To estimate the potential for revenue generation for NCD prevention and control from taxes on tobacco and alcohol”*
- It sought to answer the following questions:
  - i. What is the potential for revenue generation from the imposition of higher taxes on tobacco and alcohol products in a sample of CARICOM Member States?
  - ii. (a) Will specific tobacco and alcohol taxes impact on the consumption of these products?  
(b) Will these taxes be successful in raising revenue, as well as in controlling the use of tobacco and alcohol?
  - iii. How will aggregate revenue levels change with the increase of tobacco and alcohol taxes?
  - iv. What will be the tax level required to raise revenue while avoiding smuggling of tobacco and alcohol products?

# Methodology

- The study utilized a WHO tax simulation model - TaXSiM
- TaxSiM requires:
  - ✓ Clear understanding of the tax system
  - ✓ Measures of price elasticities of demand by brand segments
  - ✓ Current tax rates by types
  - ✓ Prices and Sales (as a proxy for consumption)
- Three countries examined—Grenada, Jamaica, Trinidad and Tobago

# Elasticity Assumptions

- Each price segment assumed to exhibit a different price-elasticity of demand, reflecting the income strata of smokers and drinkers within that segment.
- Price-elasticities for cigarettes:
  - economy brand  $-0.8$  to  $-1.0$
  - mid-priced brand  $-0.5$  to  $-0.7$
  - premium brand  $-0.2$  to  $-0.4$
- Price-elasticities for alcohol:
  - price elasticity for beer is  $-0.50$  (95% CI:  $-0.78$  to  $-0.21$ )
  - other alcoholic beverages  $-0.79$  (95% CI:  $-1.09$  to  $-0.49$ )

# Data Collection

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Country	Data Sources
Grenada	<ul style="list-style-type: none"><li>Ministry of Finance, CSO, Customs and Excise Department, some local producers and supermarkets, IWSR</li></ul>
Trinidad and Tobago	<ul style="list-style-type: none"><li>Customs and Excise, CSO, supermarkets and distributors, local manufacturers of beverages and cigarettes, IWSR, cigarette sales were derived from customs data</li></ul>
Jamaica	<ul style="list-style-type: none"><li>STATIN, PIOJ, Ministry of Finance, Ministry of Health, Spirits Pool Association, Jamaica Customs Agency. Prices and, in some cases, sales figures were supplied by supermarkets, distributors and producers, IWSR</li></ul>

# Simulations

- Simulations begin with recreating an initial tax system
- The TaXSiM estimates baseline values (2014 for this study) for a number of variables of interest including:
  - Average excise tax per unit
  - Average price per unit
  - Sale volumes (consumption)
  - Total tax revenues and excise tax revenue



# Simulations

- The excise tax rate increased to effect a 5%, 10% and 15% fall in consumption
- Impact on consumption and tax revenues then examined
- Tax maximizing excise tax rate for each product was also simulated

# TaXSiM Results

Product, %Δ Consumption		Grenada			Jamaica			T & T		
		% Increase in Average Excise Tax Per Unit	%Δ TR	%Δ EXT	% Increase in Average Excise Tax Per Unit	%Δ TR	%Δ EXT	% Increase in Average Excise Tax Per Unit	%Δ TR	%Δ EXT
Beer (6.6. litre case)	5%	286% (EC\$1.39-EC\$5.35)	34%	267%	54% (J\$409-J\$630)	16%	46%	35% (TT\$28.05-TT\$37.75)	15%	28%
	10%	585% (EC\$1.39 - EC\$9.50)	64%	515%	107% (J\$409-J\$845)	30%	86%	68% (TT\$28.05-TT\$47.10)	28%	51%
Rum (9 litre case)	5%	56% (EC\$25.38-EC\$39.50)	21%	48%	17% (J\$5,006-J\$5,850)	5%	11%	12% (TT\$341-TT\$382)	5%	6%
	10%	115% (EC\$25.38-EC\$54.65)	46%	94%	33% (J\$5,006-J\$6,660)	8%	20%	24% (TT\$341-TT\$422.75)	9%	11%
Cigarette (Pack of 20s)	5%	17% (EC\$3.20-EC\$3.80)	9%	11%	21% (J\$10.50-J\$12.75)	11%	15%	33% (TT3.81-TT5.05)	15%	26%
	10%	35% (EC\$3.20-EC\$4.40)	16%	21%	43% (J\$10.50-J\$15.0)	22%	28%	64% (TT\$3.81-TT\$6.25)	27%	48%

# Potential for Additional Revenues

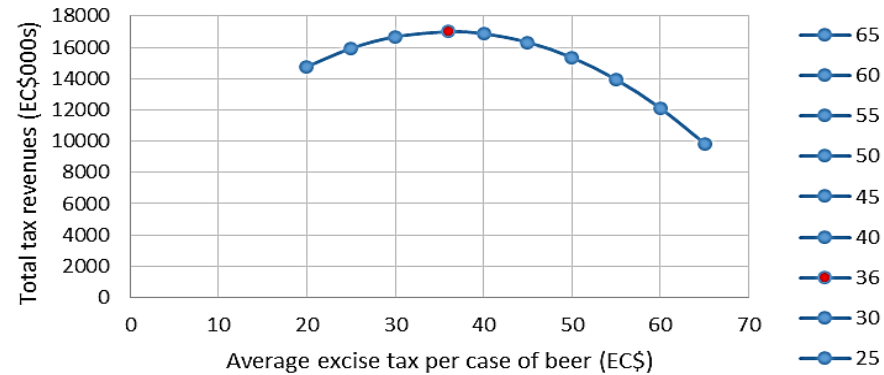
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Country, Product		Baseline, Average excise tax per unit (2014)	Total Revenue-Max Excise Tax Rate
Grenada	Beer	EC\$1.39 per 6.6 litre case	EC\$36.00 per 6.6 litre case
	Rum	EC\$25.38 per 9 litre case	EC\$150.50 per 9 litre case
	Cigarette	100% of CIF	228% of CIF
Jamaica	Beer	J\$409.05 per 6.6 litre case	J\$2,065 per 6.6 litre case
	Rum	J\$5,006.40 per 9 litre case	J\$9,200 per 9 litre case
	Cigarette	J\$210 per pack (20s)	J\$539 per pack (20s)
Trinidad and Tobago	Beer	TT\$28.05 per 6.6 litre case	TT\$100.00 per 6.6 litre case
	Rum	TT\$341 per 9 litre case	TT\$560.00 per 9 litre case
	Cigarette	TT\$ 3.80 per pack (20s)	TT\$14.00 per pack (20s)

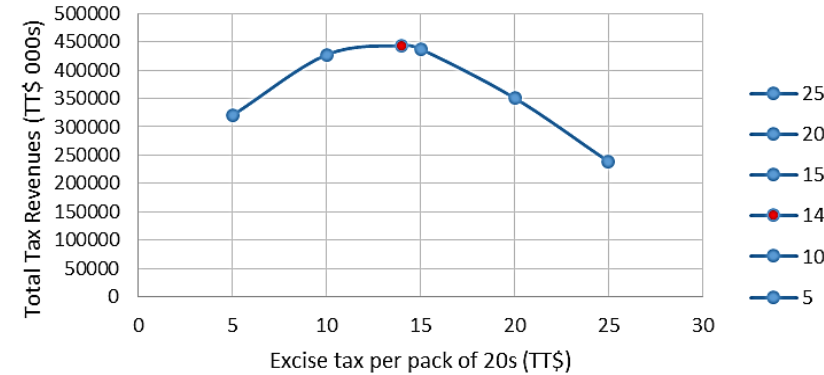
# Potential for Additional Revenues

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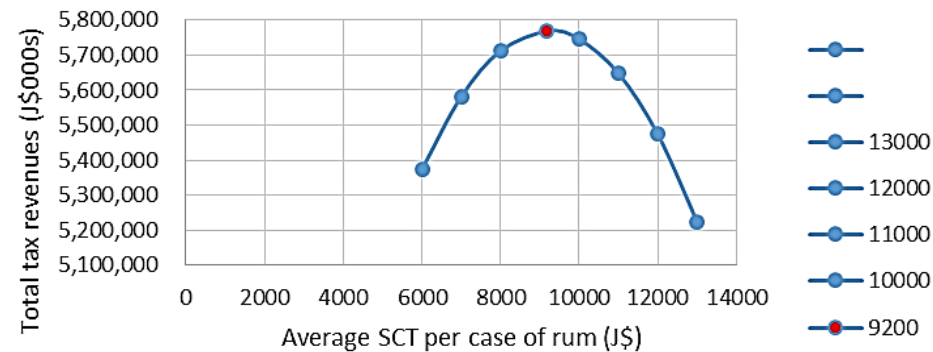
The relationship between total tax revenues and average excise tax rate per case of beer



The relationship between excise tax per pack of cigarettes and total revenues.



The relationship between average SCT per case of rum and total tax revenues.



## Excise Revenues

(resulting from a tax-induced fall in Consumption of 5% and 10%)

Country, Consumption Change	Cigarettes \$Mn	Beer \$Mn	Rum \$Mn	TOTAL in Local Currency, \$Mn	TOTAL in US Dollars, \$Mn
Grenada, 5%	0.40	2.18	0.69	EC\$3.27	1.21
Grenada, 10%	0.73	4.20	1.36	EC\$6.29	2.33
Jamaica, 5%	693.00	382.00	218.30	J\$1,293.30	10.75
Jamaica, 10%	1,278.00	709.45	395.19	J\$2,382.64	19.81
Trinidad and Tobago, 5%	40.00	2.99	9.74	TT\$52.73	8.24
Trinidad and Tobago, 10%	73.90	5.51	17.60	TT\$97.01	15.20
<b>TOTAL, 5%</b>					<b>20.20</b>
<b>TOTAL, 10%</b>					<b>37.34</b>

# Cost Estimates for NCD Prevention and Control

- Using the WHO estimate of \$3.00 per capita as the cost of mounting an NCD programme in a middle income country the total cost of these programmes in Grenada, Jamaica and Trinidad and Tobago will be  $(0.12\text{m} + 2.8\text{m} + 1.3\text{m}) \times \$3.00 = 4.22\text{m} \times \$3.00 = \mathbf{\$12.66\text{m}}$
- We have seen that the revenues derived from a tax that induces a 5% fall in consumption of tobacco and alcohol will jointly raise US\$20.20 million in these countries.
- In other words, the tax revenues raised will more than cover the cost of the NCD programmes in these countries.

# Cost Estimates for NCD Prevention and Control

- If we extrapolate our estimates to the entire CARICOM region, we will see that while the combined cost of the programmes will be **US\$52.6 million** (17,526,001 pop x \$3.00) the revenues collected will be **US\$101 million** (US\$6.73 million x 15)
- Even if the cost of the programmes is twice the WHO estimated level, the revenues collected will come close to being sufficient - \$101 million collected to service programmes costing US\$105.2 million.
- Of course if the taxes are set to cause a 10% fall in consumption, the revenues collected will greatly exceed the cost of the NCD programmes.

# Smuggling

- For the three countries, it was assumed that smuggling would be triggered when consumption falls by 10% or more, which would not be the case with the increases proposed.
- In Grenada: an average excise tax of above EC\$9.50 (EC\$1.39) per case of beer
- In Jamaica: an average excise tax of above J\$6,660 (J\$5,006) per case of rum
- In Trinidad and Tobago: an excise tax of more than TT\$6.25 (TT\$3.81) per pack of 20s cigarettes



# Potential for Other Forms of Taxation

- Tobacco and alcohol are not the only possible targets for increased taxation
- Taxation can be effective in reducing consumption of other commodities that may be harmful to health. Some countries have targeted sugary commodities, for example.
- This approach used in Mexico and Barbados, and Dominica
  - Mexico (Jan, 2014) – soda tax of 1 peso per litre
  - Barbados (Aug, 2015) – 10% excise tax levy on sweetened beverages
  - Dominica (Sept, 2015) – 10% excise tax on sweets, chocolates and sweetened beverages

# Summary of Findings

- What is the potential for revenue generation from the imposition of higher taxes on tobacco and alcohol products in a sample of CARICOM Member States?
  - Given the baseline excise tax rates and the revenues maximising rate, the study show significant potential to raise further revenues from tobacco and alcohol taxes, of well over 200% above the baseline.
- Will specific tobacco and alcohol taxes impact on the consumption of these products?
  - Yes, the results indicate that with an increase in the excise tax rate consumption will fall. This excise tax was used to induce consumption declines of 5% and 10%.

# Summary of Findings

- Will these taxes be successful in raising revenue, as well as in controlling the use of tobacco and alcohol?
  - Yes , the results indicate that consumption can be curtailed alongside further increases in tax revenues as a result of higher excise taxes on the products. A tax-induced 5% fall in consumption will lead to a rise in total revenues of over 6% in all cases
- How will aggregate revenue levels change with the increase of tobacco and alcohol taxes?
  - The model predicts positive and mostly significant changes in overall revenues, due to higher alcohol and tobacco taxes, e.g. a 5% fall in consumption across all products is expected to raise \$US20.20 million for the three countries examined

# Summary of Findings

- What will be the tax level required to raise revenue while avoiding smuggling of tobacco and alcohol products?
  - For the three countries, smuggling would be triggered when consumption is expected to fall by 10% or more, which would not be the case with the increases proposed. EC\$9.50 (EC\$1.39) per case of beer in Grenada, J\$6,660 per case of rum in Jamaica and TT\$6.25 pack of 20s cigarette in Trinidad and Tobago.

# Thank You

