Health Taxes Seminar Series

Modelling the impact of SSB tax on health and beyond: the role of modelled analysis in shaping pro-health fiscal policies

Thursday, March 3, 7.00-8.30 am EST
Meeting Guidance

1. Please mute your mic when others are speaking by clicking this icon on your screen 📺. You are muted when you see the following icon 🎤.

2. If you have technical difficulties, please contact Aditi Nigam or Vrishali Shekhar using the Chat feature. This can be found by clicking this icon 📣.

3. Please use the chat feature by clicking this icon 📣 and to send a question that can be seen by ‘Everyone’.
Session moderator

Dr. Hideki Higashi
Senior Health Economist, World Bank

Dr. Jahanzaib Sohail
Health Economist, World Bank
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<th>Agenda Item</th>
<th>Speaker</th>
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<tr>
<td>OPENING REMARKS</td>
<td>Ms. Trina Haque&lt;br&gt;Practice Manager for Health, Nutrition and Population, South Asia</td>
</tr>
<tr>
<td>MODELLING THE IMPACT OF SSB TAX IN PAKISTAN AND SRI LANKA</td>
<td>Dr. Lennert Veerman&lt;br&gt;Professor of Public Health, Griffith University, Australia&lt;br&gt;Dr. Linda Cobiac&lt;br&gt;Senior Research Fellow, School of Medicine, Griffith University, Australia&lt;br&gt;Ms Sarah Mounsey&lt;br&gt;PhD Candidate and Researcher, Menzies Centre for Health Policy and Economics, University of Sydney, Australia.</td>
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<tr>
<td>SHAPING SSB TAX POLICY IN SOUTH AFRICA</td>
<td>Dr. Michele Cecchini&lt;br&gt;Project Leader, Public Health, Organisation for Economic Co-operation and Development</td>
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<tr>
<td>INTERVIEWS WITH COUNTRY REPRESENTATIVES</td>
<td>Nigeria - Dr Zainab Shinkafi-Bagudu&lt;br&gt;Chief Executive Officer, Medicaid Radio-Diagnostics and Medicaid Cancer Foundation&lt;br&gt;Sri Lanka - Dr. Renuka Jayatissa&lt;br&gt;Head, Department of Nutrition, Medical Research Institute, Ministry of Health.&lt;br&gt;Pakistan - Dr Samra Mazhar&lt;br&gt;Deputy Director, Ministry of Health</td>
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<tr>
<td>QUESTIONS AND DISCUSSIONS</td>
<td>Moderated by:&lt;br&gt;Dr. Hideki Higashi, Senior Health Economist, World Bank&lt;br&gt;Dr. Jahanzaib Sohail, Health Economist, World Bank</td>
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<tr>
<td>CLOSING REMARKS</td>
<td>Dr. Kate Mandeville&lt;br&gt;Senior Health Economist, World Bank</td>
</tr>
</tbody>
</table>
Opening remarks

Ms. Trina Haque

Practice Manager for Health, Nutrition and Population, South Asia
Polling the experts

Do you support or oppose the idea of taxing sugar-sweetened beverages because of their negative health effects in order to reduce the actual consumption?

• Strongly support
• Somewhat support
• Somewhat oppose
• Strongly oppose
• Don’t know
Modelling the impact of SSB tax in Pakistan and Sri Lanka

Industry arguments against Mexico’s SSB tax

Dr. Lennert Veerman
Professor of Public Health, Griffith University, Australia

Dr. Linda Cobiac
Senior Research Fellow, School of Medicine, Griffith University, Australia

Ms Sarah Mounsey
PhD Candidate and Researcher, Menzies Centre for Health Policy and Economics, University of Sydney, Australia
Impact assessment of fiscal policies on obesity and related health outcomes in South Asia

Sarah Mounsey, Linda Cobiac, Lennert Veerman
Thursday 3 March, 2022
Formal beverage market

Pakistan

Sri Lanka

Sugar tax introduced
Tax halved

Long-term upward trends in drink sales

Source: www.euromonitor.com
## Beverage taxes

### Pakistan

<table>
<thead>
<tr>
<th>CURRENT TAXES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sales tax</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>• Federal excise duty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Soft drinks</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>- Juice</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>- Concentrates</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>- Milk</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

### Sri Lanka

<table>
<thead>
<tr>
<th>CURRENT TAXES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sales tax</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>• National Building Tax</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>• Excise tax on sugar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Rs 0.30 per gram sugar</td>
<td>(US$0.002)</td>
<td></td>
</tr>
</tbody>
</table>

### Modelled Scenarios

<table>
<thead>
<tr>
<th>PAKISTAN</th>
<th>SRI LANKA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remove all drink taxes</td>
<td>1. Remove all drink taxes</td>
</tr>
<tr>
<td>2. Soft drinks 20%</td>
<td>2. Rs 0.50 per gram sugar</td>
</tr>
<tr>
<td>3. Soft drinks 30%</td>
<td>3. Rs 1.00 per gram sugar</td>
</tr>
<tr>
<td>4. All drinks 50%</td>
<td></td>
</tr>
</tbody>
</table>
Tax impact on drink purchasing

Price elasticity of demand = \frac{\% \text{ change in quantity}}{\% \text{ change in price}}

- Soft drinks
- Concentrates
- Juice
- Milk

Euromonitor (formal market sales)
Global Dietary Database (consumption by age and sex)

Euromonitor (soft drinks, concentrates, juice)
Government (milk)

Litres per day
$ per litre
Tax impact on drink consumption

Increase in consumption when existing drink taxes removed

Consumption decreases when drinks taxes are progressively raised
Population model

- ΔLitres SSBs/day
  - Energy
  - Sugar
  - Tax

- Body mass index (BMI)

- Population | United Nations
- Mortality rates | United Nations
- Body mass index | NCDRisC
- Disease rates | GBD, Disbayes
- Relative risks | GBD

- Overweight & obesity
- Disease incidence & mortality
- Disability-adjusted life years (DALYs)
- Tax revenue

- Diabetes mellitus type 2
- Ischaemic heart disease
- Ischaemic stroke
- Intracerebral hemorrhage
- Hypertensive heart disease
- Atrial fibrillation and flutter
- Oesophageal cancer
- Colorectal cancer
- Liver cancer
- Pancreas cancer
- Breast cancer
- Uterus cancer
- Kidney cancer
- Multiple myeloma
Impact on overweight and obesity – in year 10

Increase in overweight and obesity when existing drink taxes removed

Overweight and obesity decrease when drink taxes are raised
Prevention of disease incidence – first 10 years

Models show a large impact of drinks taxes in preventing type 2 diabetes.

Cardiovascular disease benefits are also substantial.
Lifetime health gain

Both are effective

→ Ad valorem tax ($ per Litre)

<table>
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<tr>
<th>Health gain</th>
<th>Volumetric tax ($ per gram of sugar)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Pakistan</th>
<th>Sri Lanka</th>
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The larger the tax, the larger the potential health gain
## Fiscal implications – first 10 years

### Average annual impact in the first 10 years after tax changes

<table>
<thead>
<tr>
<th></th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
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</thead>
<tbody>
<tr>
<td><strong>Pakistan</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health gain or loss (DALYs)</td>
<td>-6,400</td>
<td>590</td>
<td>1,300</td>
<td>8,500</td>
</tr>
<tr>
<td>Economic value of health impact (USD)</td>
<td>-$6.7M</td>
<td>$0.62M</td>
<td>$1.4M</td>
<td>$8.9M</td>
</tr>
<tr>
<td>*Tax revenue (USD)</td>
<td>$530M</td>
<td>$840M</td>
<td>$960M</td>
<td>$810M</td>
</tr>
<tr>
<td><strong>Sri Lanka</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health gain or loss (DALYs)</td>
<td>-1,100</td>
<td>550</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>Economic value of health impact (USD)</td>
<td>-$3.3M</td>
<td>$1.7M</td>
<td>$4.8M</td>
<td></td>
</tr>
<tr>
<td>*Tax revenue (USD)</td>
<td>$73M</td>
<td>$110M</td>
<td>$120M</td>
<td></td>
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</table>

* Tax revenue includes drink taxes, sales tax and National Building Tax (in Sri Lanka)
We examined sensitivity of results to a range of modelling assumptions:

- Pass-through of taxes: 50% - 150%
- Variations in age/sex distribution of drink consumption
- Assumptions around background market trends

Variation in magnitude of results

No difference in direction or significance of tax effects
Conclusions from modelling

• Raising taxes on sugar-sweetened drinks in Pakistan and Sri Lanka is very likely to improve population health
  - particularly in prevention of overweight/obesity, diabetes and cardiovascular diseases

• There are substantial financial benefits
  - Both tax revenue and added value of keeping people alive and healthy

• Both ad valorem and volumetric taxes are effective

• The bigger the tax, the bigger the benefits
Model as a “live tool” in shaping SSB tax policy in South Africa

Dr. Michele Cecchini

Project Leader, Public Health, Organisation for Economic Co-operation and Development
MODELLING AS A “LIVE TOOL” IN SHAPING SSB TAX POLICY IN SOUTH AFRICA

Michele Cecchini
Head of Public Health
OECD
Between 2000 and 2014, the prevalence of obesity in South Africa almost doubled for men and grew by almost one third for women.

Ref: WHO, 2017

In 2016, sales volume of regular cola reached 25.5 liters/capita, while low calorie colas were at 2.9 liters/capita. In both cases, there was a significant increase since 2011.

Ref: Euromonitor International, 2017
South Africa Was Committed To Tackling The Obesity Epidemic

- The 2013-17 South African National Plan for NCDs set an objective of decreasing obesity prevalence by 10% over five years;

- The 2015-20 Strategy for the Prevention and Control of Obesity in South Africa used OECD-WHO economic analyses to make the economic case for strengthening obesity policies;

- South Africa already experimented an excise duty on soft drinks, primarily for revenue reasons, but the policy was ended in 2002. The duty was of USD 0.035 per liter and was considered as effective. For example it raised USD 71 million in revenues in 1997-98.
### Different Design Options Were On The Table: Modelling Outputs Were Used To Promote Agreement

<table>
<thead>
<tr>
<th>Treasury</th>
<th>WHO &amp; civil society</th>
<th>Industry</th>
<th>Elasticity uncertainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective tax rate 12%</td>
<td>Effective tax rate 20%</td>
<td>Single-digit effective tax rate (8%)</td>
<td>stakeholders had different positions on assumptions, e.g. on whether to include milk, and on the data sources</td>
</tr>
<tr>
<td>0.0046 USD per gram of sugar on a liter</td>
<td>0.0046 USD per gram of sugar on a liter</td>
<td>0.0046 USD per gram of sugar on a liter</td>
<td></td>
</tr>
<tr>
<td>Only sugar content above 4g/100ml to be taxed</td>
<td>All sugar content to be taxed</td>
<td>All sugar content to be taxed</td>
<td></td>
</tr>
</tbody>
</table>

Different Design Options Were On The Table: Modelling Outputs Were Used To Promote Agreement

<table>
<thead>
<tr>
<th>Regulation of sugar content</th>
<th>VS</th>
<th>No regulation of sugar content</th>
</tr>
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</table>
Situation assessment
Fact/data finding
Partnerships establishment

Spring 2016

17/01/2017

• WHO and OECD send two independent but coordinated requests to Parliament to speak to the Finance Standing Committee on the taxation of SSBs

22/03/2017

• Results of the analyses are presented to the Finance Standing Committee on the Taxation of SSBs

Dec 2017

• The Parliament of South Africa passes the new law on SSBs

This Was Not A ‘One-off’ Analysis But Rather A 1-Year-Long Continuous Partnership

Modelling assumptions and scenarios were adapted throughout as debate developed in South Africa, with intermediary outputs presented in meetings and events with civil society and institutions
Establishing A Strong Partnerships Was Key To Success

Made available international data and know how on elasticities and product substitution.

Made available location-specific data and knowledge.

Kept the issue at the centre of attention and reacted to attempts to stop the legislative process.

WHO-ZAF

Good knowledge of the local context.

Access to resources and key people.

University of Illinois at Chicago

UIC

OECD

Made available a solid tool and credibility that were difficult to criticize.

Treasury

Made available international data and know how on elasticities and product substitution.

Ministry of Health

Civil society

Provided vision and leadership within the government.
There were a number of attempts at stopping or watering down the proposed legislation.
South Africa Eventually Passed the Legislation

On December 2017 the Parliament passed the new legislation on SSBs;

The health promotion levy was implemented in April 2018

– 0.0046 USD per gram of sugar on a liter
– Only sugar content above 4g/100ml to be taxed
– Small producers using <500 kg of sugar per year are exempt
Polling the experts

• What kind of evidence (including modelled analysis) can play a critical role in the policy-making process for SSB tax? (select two that are most relevant)

  • The overall health gains from SSB tax
  • The impact of SSB tax on government revenue
  • The impact of SSB tax on health expenditure
  • The impact of SSB tax on household expenditure
  • Evidence has little role in the policy-making process.
Country Discussions
Country reflections - NIGERIA

Dr Zainab Shinkafi-Bagudu

Chief Executive Officer, Medicaid
Radio-Diagnostics and Medicaid
Cancer Foundation
Country reflections – SRI LANKA

Dr. Renuka Jayatissa

Head, Department of Nutrition, Medical Research Institute, Ministry of Health.
Country reflections - PAKISTAN

Dr. Samra Mazhar
Deputy Director, Ministry of Health
Questions & Discussions
Closing Remarks

Dr. Kate Mandeville

Senior Health Specialist,
World Bank
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Please fill out feedback form shared in chat

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