

Effectiveness of the sugar tax in Bermuda: A qualitative and quantitative evaluation

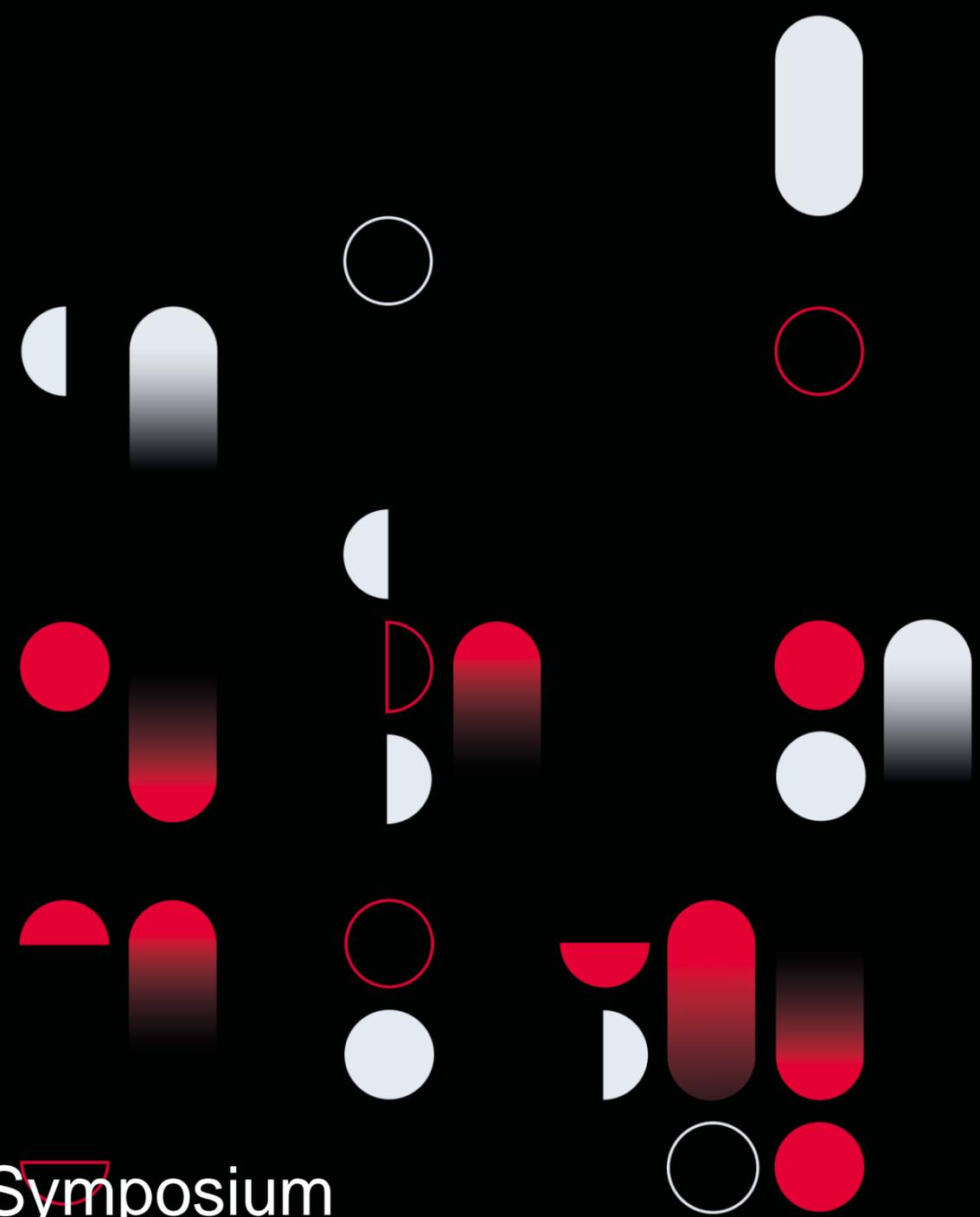
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Background

- Bermudian government introduced a phased sugar tax to improve nutritional quality of people's diets - October 2018
 - Sugar-sweetened beverages (SSBs), candies & raw sugar — Tax increased from **33.5% to 50%**
 - Select fruits and vegetables (F&V) — Tax decreased from 5% to 0%
- Tax increased to 75% and extended to products with cocoa - April 2019



Methods

1. Assess awareness, acceptability, and perceptions of the sugar tax

Qualitative

Telephone survey of **400 Bermudian** residents about the sugar tax
Interviews with stakeholders

2. Evaluate changes in price and purchasing patterns of taxed products

Quantitative

Interrupted time series analysis using weekly sales and price data from one of the largest retailers in Bermuda

Qualitative analyses

Methods

General public — Bermuda Omnibus Survey

- Quarterly survey which tracks public perceptions on economic, political, and social issues
- Nationally representative sample of 400 residents of Bermuda, 18+ years of age
- Survey conducted March 4-18, 2020

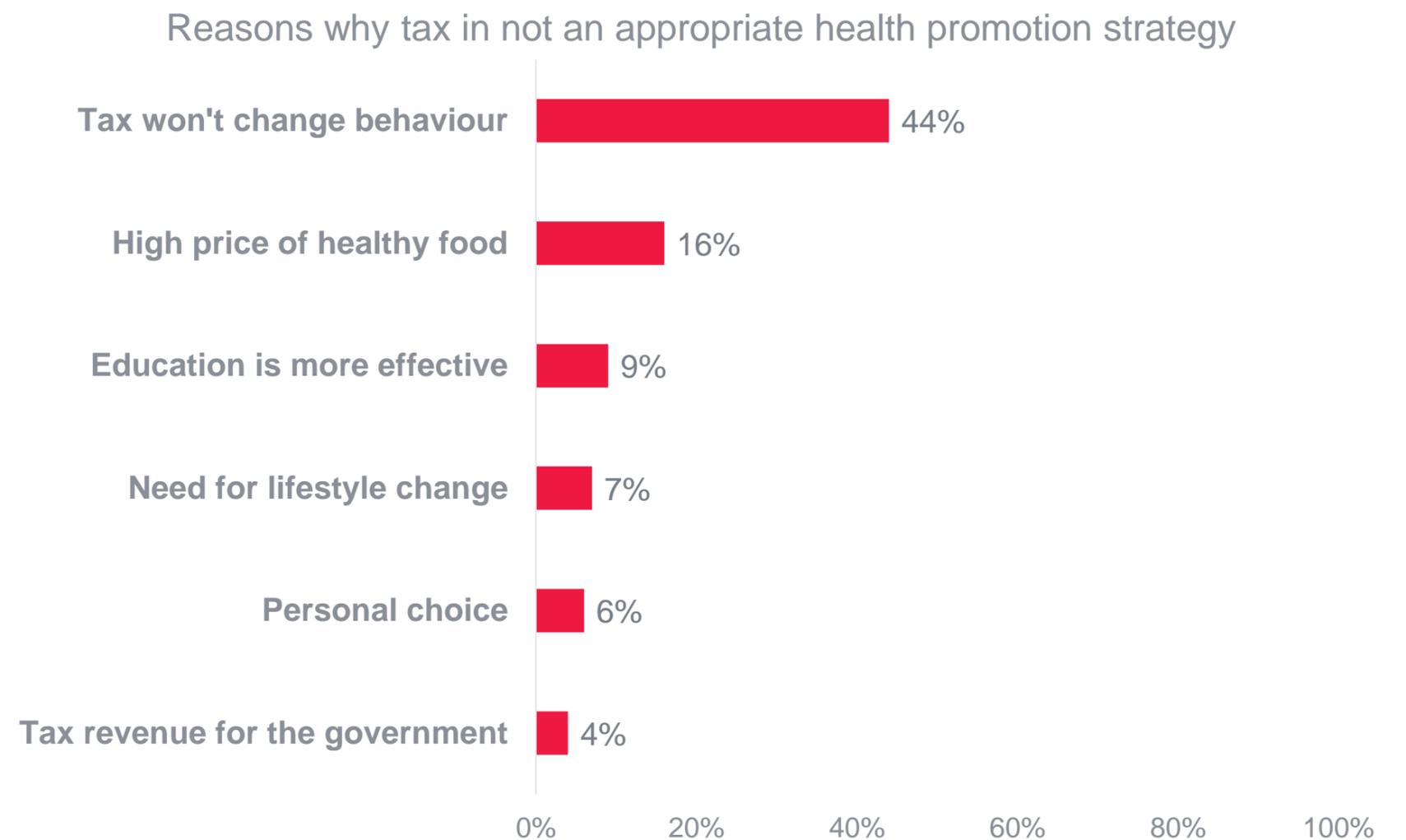
Key stakeholders — government, health, food & beverage sectors

- Semi-structured interviews of government, health, food and beverage sector informants
- Purposive and snowball sampling
- Interviews conducted 3 August 2020 – 11 September 2020

Qualitative evidence: Attitudes toward sugar tax (I)

Key findings from general population survey

- Very high awareness of the sugar tax – 94%
- Lower awareness of fruit and vegetable subsidy – 32%
- Two-thirds (67%) felt the tax was not an appropriate health promotion strategy
- Reduced consumption of products with added sugar reported by nearly half (48%)
 - Motivations: healthier diet, prices
- Replacements for products with added sugar were water (21%), fruit (14%)



Qualitative evidence: Attitudes toward sugar tax (II)

Key findings from stakeholder interviews

Awareness

- Knowledge and understanding

Acceptability

- Taxation as a health promotion strategy
- Tax mechanism
- Intervention targets

Economic and equity impacts

- Impact on prices
- Impact on socioeconomic equality
- Use of sugar tax revenue

Effectiveness of the tax as a health promotion strategy

- Impact on purchasing and consumption of taxed products
- Impact on health outcomes
- Impact of the fruit and vegetable subsidy

Qualitative evidence: Attitudes toward sugar tax

Key findings

General public — Bermuda Omnibus Survey

- 94% people in Bermuda were aware of the sugar tax, but not aware of F&V subsidy (32%)
- One in two Bermudians reported reduced consumption of products with added sugar as a result of the tax
 - 33% felt that a tax was an appropriate way to improve their diet
 - 43% said they were also motivated by price increases

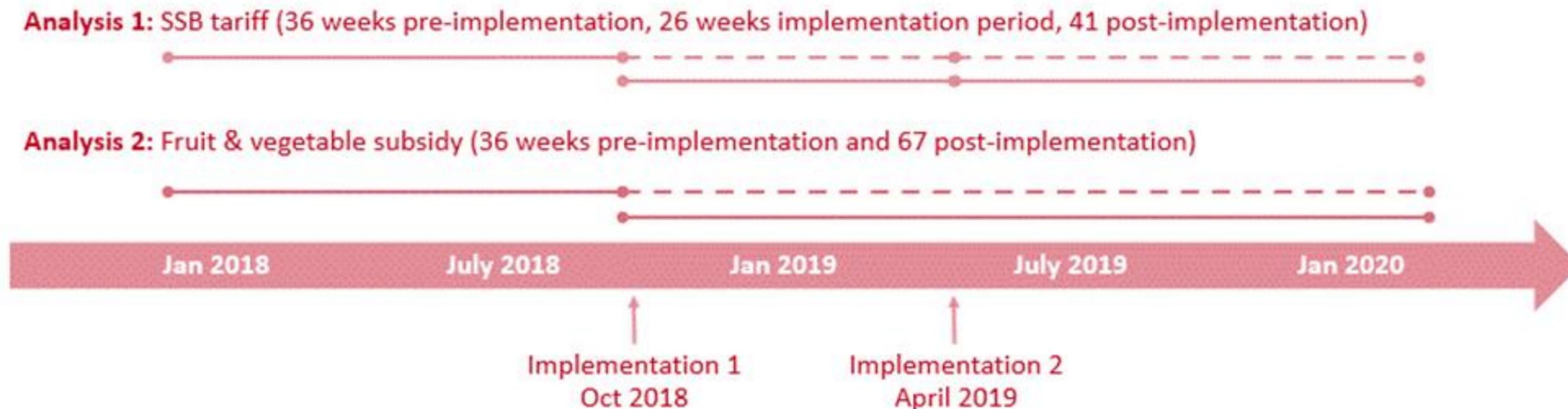
Key stakeholders — from government, health, food & beverage sectors

- Views were polarised, ranging from strong support to strong opposition for the sugar tax
- Concerns expressed that the tax may disproportionately affect lower-income households
- No informants were aware of any direct use of the tax revenue

Quantitative analyses

Methods

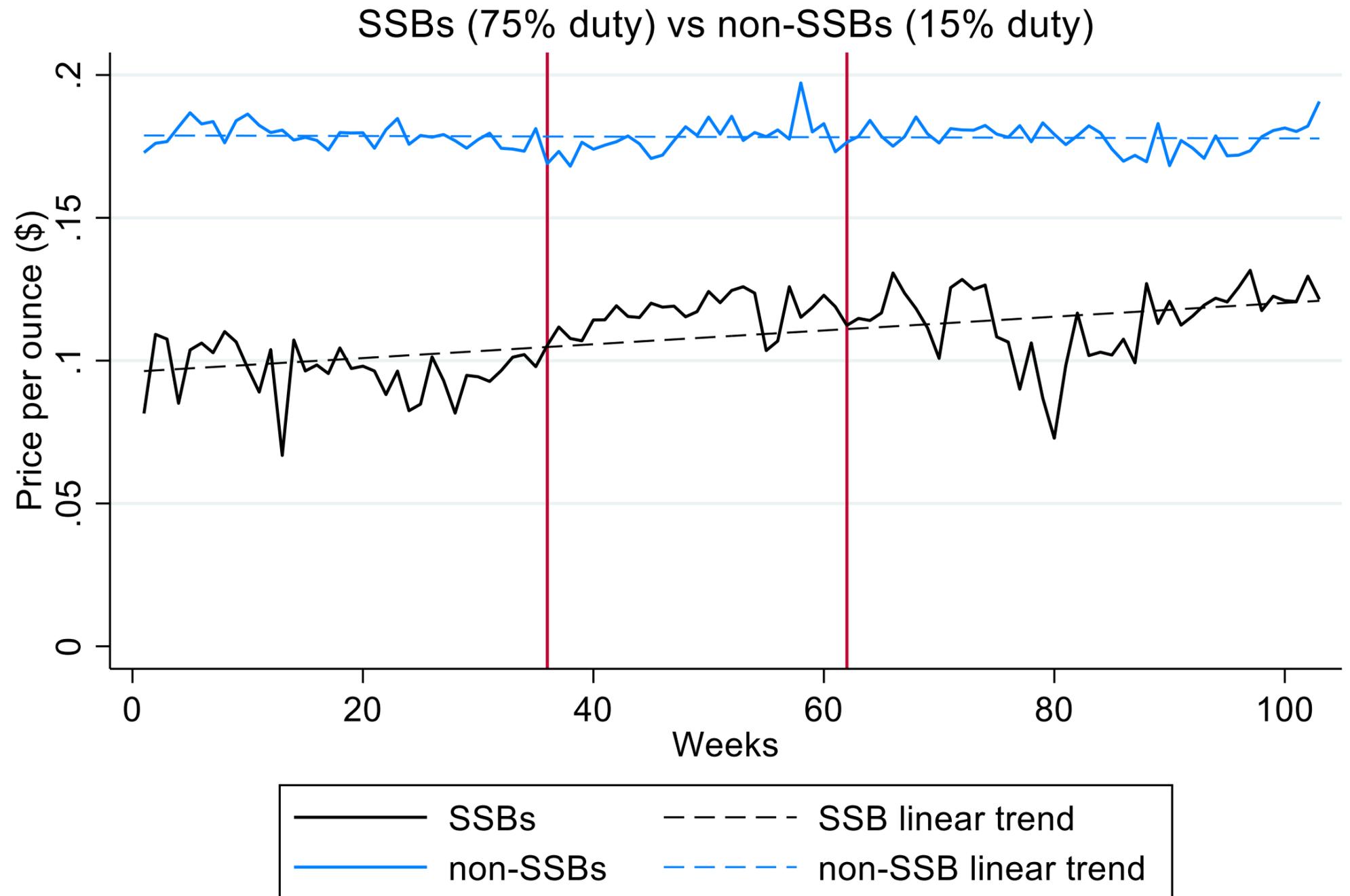
- Weekly electronic point-of-sale data from Lindo's, a major food retailer in Bermuda
- Interrupted time series (ITS) analysis with multiple treatment periods
- Outcomes:
 1. Price – in USD (\$)
 2. Sales – in volume sold (ounces/pounds per week per capita)
- Controls: Major holidays and Cup Match, season, temperature, price
- Investigated change in market share as well



Key findings

Price of beverages

- Average price of SSBs increased by 26%, while the price of non-SSBs remained constant
- Evidence of large price promotions coinciding with major sporting events and holidays

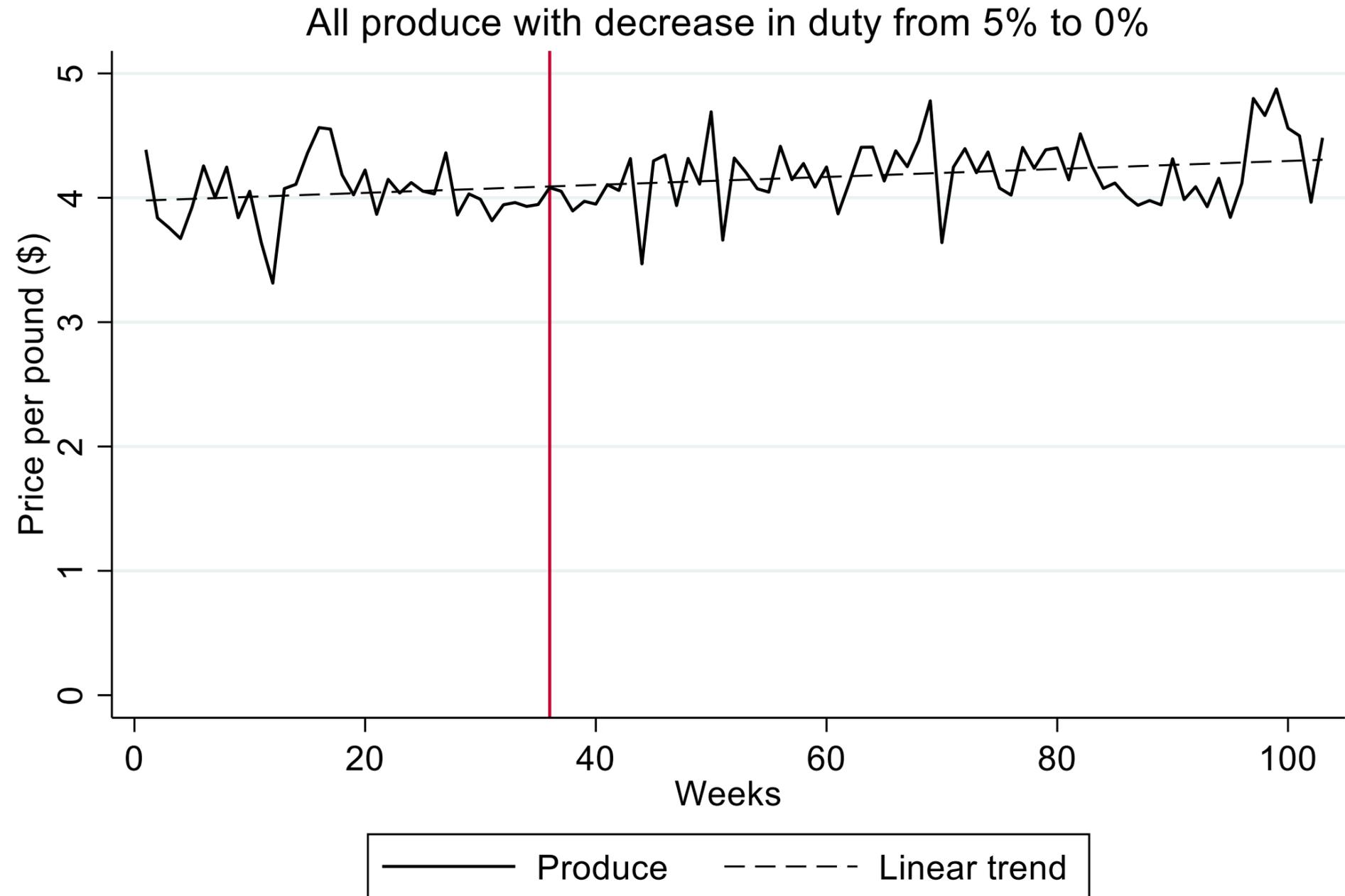


Note: non-SSBs in this figure include waters, ASBs and other drinks.

Key findings

Price of F&V

- F&V subsidy was ineffective in changing prices and sales

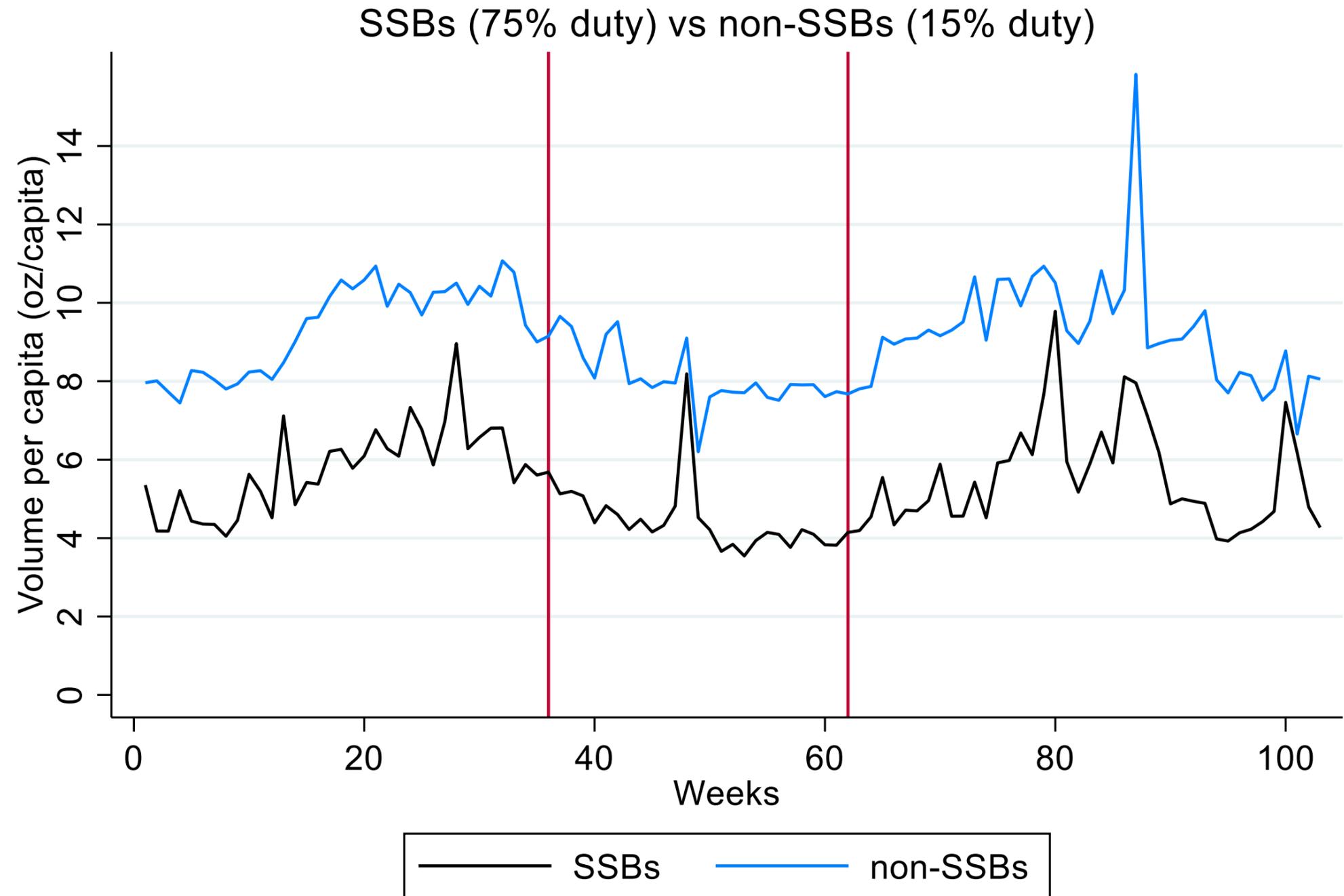


Produce include: potatoes, cauliflowers, broccoli, carrots, turnips, oranges and apples.

Key findings

Sales

- Both post-intervention trends were negligible in size and not statistically significant
- By end of study period, market share of SSBs decreased by nearly 8 percentage points



Note: non-SSBs in this figure include waters, ASBs and other drinks.

Conclusions – Quantitative evidence

Did the sugar tax work in Bermuda?

- Before the sugar tax, beverages with added sugar **were 40% cheaper** than non-sugar added beverages (per ounce)
- The sugar tax **narrowed** the price gap
- Price was the sole structural driver of SSB market share
- The tax has been largely passed through to consumers
- F&V subsidy was ineffective
- Definite areas that could improve the efficacy of the sugar tax to ensure a greater impact on dietary behaviours

The average price of sugar-sweetened beverages increased by 26% over the two-year period



Conclusions – Qualitative evidence

What can we take away from this study?

- **Improved communication**
 - Clarity regarding products that are taxed and those that are not
 - Surrounding the use of the revenues generated by the tax
 - Increase awareness via campaigns (F&V)
- **Structural changes to the sugar tax**
 - Incentivising consumption through price incentives will require stronger measures than 5% reduction
 - Regulation of price promotions – restricting promotions on less healthy products covered by the tax
 - Supporting with complementary policies aimed at creating healthy food environments
 - Potential non-sugar substitutes were too expensive for meaningful substitution to take place
 - Increased availability/promotion of affordable and healthy food and beverage options

Tax instrument – Use of import tariffs

Lessons learned

- **Pros**
 - Feasibility and practicality
- **Cons**
 - Import tariffs apply to prices that may be very different (lower than) the prices paid by consumers – the tax will only apply to a portion of the final retail price
 - Tax may not be readily apparent to the consumer at the retail level
 - Consumers may be incentivized to ‘trade down’ to cheaper products which may also be less healthy; promotions can undermine the impact of the tax
- **Potential considerations for other settings**
 - If import tariffs are used, consider payment of fixed amount per quantity imported (similar to implementation of alcohol, tobacco taxes)
 - Consider suitability of excise tax or point-of-sale tax as alternatives

Tax base – Expanding beyond sugar-sweetened beverages

Lessons learned

- **Pros**

- Expanded reach, increased tax revenue

- **Cons**

- Inclusion/exclusion of products from the tax base can be challenging and can create controversy
- Criteria for inclusion needs to be applied in a consistent way with the tariff code system

- **Potential considerations for other settings**

- Coherent plan and target based on individual nutrient (e.g. sugar) content or nutrient profile is needed for health taxes that expand beyond SSBs
- Risk of unwarranted substitutions is greater with an expanded tax base (compared to SSB-only) thus appropriate tax design is critical
- Need for affordable healthy alternatives to incentivize healthier substitutions

Tax level – 75% sugar tax; 5% tax reduction for select produce

Lessons learned

- **Pros**

- Sugar tax was fully passed on to consumers resulting in a 26% increase in retail prices and consumers reduced their purchasing by the same amount (~26%)

- **Cons**

- Tax reduction on select fresh fruit and vegetables was too small to impact retail price
- Price of non-SSBs remained higher than SSBs

- **Potential considerations for other settings**

- Tax level should be considered in relation to the tax design
- Importance of incentivized and affordable healthy options

Thank you for your attention

If you have any questions, please send them
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