

and osteoarthritis, as well as diabetes and cardiovascular disease [5]. Sugar intake is linked to obesity [6–8], as well as dental health [9, 10]. In response to this growing epidemic of obesity, the Irish Government announced the forthcoming introduction of a sugar levy in its 2016 Obesity Policy And Action Plan [11].

A Sugar-Sweetened Beverage Tax (SSBT), or Sugar Tax, as it is more commonly termed is a classic example of what is often termed a ‘sin tax’. Such taxes are often charged on commodities deemed harmful to society, such as tobacco, alcohol, gambling, and pornography [12]. Ireland introduced its SSBT in May 2018 [13]

being introduced in the UK [14]. is was done to ame-

confidence level, a 5% margin of error, an estimated population proportion of 15%, and an estimated combined figure of 350 hospitality venues in the two cities. The NielsenIQ report for 2022 identified the top leading carbonated soft drink in Ireland as Coca-Cola followed by 7UP, Pepsi, Club, and Fanta [59]. Of these top five leading brands, only Coca-Cola remains above the SSBT threshold of 5 g of sugar per 100 ml. Coca-Cola contains 10.6 g per 100 ml. This survey examined the costs of Coca-Cola versus diet versions by the same manufacturer (i.e. Diet Coke or Coke Zero). When originally conceived Club soft drinks were also above the SSBT threshold. However, even though Club drinks had been reformulated to below the SSBT threshold by the time data collection started they were still included to explore the issue of availability. It is important to remember that although reformulation of a drink such as Club Orange is important, every 330 ml can of the new recipe still contains over 3 teaspoons of sugar (Club now contains 4.5 g of sugar per 100 ml). Information was collected in person from the hospitality venues either from menus and noticeboards or by asking members of staff. Data was collected in 2023, approximately 5 years after the introduction of the SSBT. The pass-through rate of the SSBT in this analysis is taken as the differential in pricing between regular Coca-Cola and diet versions of that brand.

This study was approved by the Institutional Research Ethics Committee at the Technological University of the Shannon-Midwest. Data was collated in MS Excel and SPSS utilised to produce descriptive statistics and

conduct t-tests. The focus on just two provincial cities must be acknowledged as a limitation of this research.

## Results

Data was collected from 99 establishments, with one Café declining to participate. 90.9% (90) of venues sold both full-sugar Coca-Cola and diet equivalents (see Table 1).

In contrast, just 12.1% (12) establishments sold Club Orange, with just 2.0% (2) selling the no-sugar equivalent (Club Orange Zero) (See Table 1).

Table 2 details the relative prices of Coca-Cola and its sugar-free versions in hospitality venues. Wilcoxon signed rank test revealed that regular Coca-Cola was significantly more expensive ( $Md=2.73$ ,  $n=87$ ) compared to the price charged for diet versions of Coca-Cola ( $Md=2.73$ ,  $n=87$ ),  $z=-3.18$ ,  $p=.001$ , with a small effect size  $r=.24$ . However, in 85.6% of cases, regular versus sugar-free versions of Coca-Cola were for sale at the same price. No venues charged more for the diet version of Coca-Cola. Of the 13 premises which did charge more for regular Coca-Cola the rate charged was less than the tax rate in one venue, and higher in the other 12. Among the 13 venues which did charge a higher price the average higher price was 21.1 cents per 330 ml ( $SD=0.15$ ), ranging from 7 cents to 53 cents. A pass-through rate of 100% would indicate that a venue charged, for example, an extra 8 cents for a 330 ml can of regular Coca-Cola over a diet version of that brand. The mean pass-through rate of the SSBT in this examination was 38.3%. Further analysis by hospitality venue type was not possible given the numbers involved.

## Discussion

The results indicate that a statistically significant difference was noted in price between diet and regular versions of Coca-Cola. However, the results also demonstrate that in almost nine out of ten (85.6%) venues the regular and sugar-free versions of Ireland's leading soft drink, Coca-Cola, were for sale at the same price in the two cities examined. Such equal pricing removes both the rational choice mechanism through which a potential buyer might opt for the cheaper sugar-free instead of the



fermentation process, in certain drinks, such as coffee liqueurs, a substantial volume of sugar is added back into the product after the yeast has died. Finally, given a history of poor quality evidence in this field, it is essential that any changes to the SSBT and associated taxes is accompanied by clear baseline evaluations and a structured and funded review process.

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