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## A tax on sugar sweetened drinks: an overview

October 2016

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The introduction of a tax on sugar-sweetened drinks was included in the [Programme for a Partnership Government](#) and media reports indicate that it will be included in the 2017 budget, although it may not be implemented until 2018. This Note examines the proposals for a tax on sugar-sweetened drinks in Ireland, the policy context and some of the evidence on the effectiveness of such a tax. The key messages arising from the evidence examined are briefly summarised at the end of this Note.

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## Contents

Key points.....	3
Policy Context .....	4
Sugar and health .....	4
Cost of overweight and obesity .....	4
Dietary guidelines .....	4
Irish Government policies to reduce sugar intake.....	5
Policies to reduce sugar intake in other jurisdictions.....	6
Proposed tax on sugar-sweetened beverages in Ireland.....	6
The Department of Finance’s assessment of the proposed tax .....	7
Challenges .....	7
Impact assessment commissioned by Department of Health .....	8
Stakeholder commentary .....	8
Evidence on the effectiveness of a tax on sugar sweetened drinks .....	9
Sales data .....	10
Modelling studies.....	12
Reviews of the evidence .....	12
Key messages from the evidence examined.....	14

## Key points

- Reviews of the academic evidence indicate that consumption of sugar sweetened drinks is associated with increased energy intake, weight gain and lower intakes of milk, calcium and other nutrients.
- Media reports indicate that Minister for Finance, Michael Noonan, will include a tax on sugar sweetened beverages in the 2017 budget but may delay the implementation of the levy until 2018 to coincide with the introduction of a soft drinks industry levy in the UK.
- The Department of Finance's tax strategy papers 2014-2016 highlight that a volumetric tax which is based on the *volume* of the actual product rather than a *percentage of the retail price* would be easier to administer and impose and would be more effective from a public health perspective.
- The proposed sugar-sweetened drinks tax has been welcomed by various stakeholders, particularly health commentators, but it has been criticised by others, particularly representatives of the food and drinks industry.
- Hungary, France, Mexico, Belgium, Australia, Norway and 34 States of the US and the District of Columbia all have taxes on sugar sweetened drinks with some also having taxes on other sugar sweetened foods (e.g., sweets and chocolate).
- A robust evaluation of these taxes is not available for most of the jurisdictions, although the available evidence suggests that a reduction in sales has been observed as a result of these taxes in Norway, Finland, Hungary, France and Mexico.
- A 2015 review by Public Health England concluded that the evidence from the various sources (sales data, experimental studies and modelling studies) showed a trend towards fiscal measures impacting on sales providing the tax is high enough.
- A recent review of the evidence by the European region of the WHO concluded that taxes on sugar sweetened drinks and targeted subsidies on fruit and vegetables emerge as the policy options with the greatest potential to induce positive changes in consumption. They also recommended that price policies should focus on influencing purchasing and consumption behaviour, rather than downstream effects such as reducing obesity, which is also influenced by many other factors.
- Taken together, the reviews of the evidence appear to indicate that a tax on sugar sweetened drinks would reduce sales of such products, although the tax may be regressive to a small extent (with a slightly greater financial impact on lower socio-economic groups). There is less evidence on the impact of a tax on health outcomes such as body weight, but the conclusions of reviews of the evidence indicate that a higher price for sugary drinks could lead to modest reductions in population weight.

## Policy Context

### Sugar and health

Consuming excess sugar and too many foods and drinks high in sugar has been associated with weight gain, which in turn increases the risk of heart disease, type 2 diabetes, stroke and some cancers. It is also linked with tooth decay.<sup>1</sup> Moreover, reviews of the academic evidence indicate that consumption of sugar sweetened drinks (SSD) is associated with increased energy intake, weight gain and lower intakes of milk, calcium and other nutrients. Consumption of sugary drinks has also been linked with several health problems such as diabetes and tooth decay.<sup>2,3</sup>

### *Cost of overweight and obesity*

The [National Adult Nutrition survey](#) (2008-2010) found that among 18-64 year olds in Ireland, 37% are overweight and 24% are obese, with the prevalence of overweight and obesity increasing with age.<sup>4</sup> Although the cost of excess sugar intake to the health budget is not available, a 2012 study estimated that the annual cost of overweight and obesity in the Republic of Ireland is €1.13 billion. The study, conducted by University College Cork (UCC), found that in the Republic of Ireland, 35% of total costs (€398 million) represented direct healthcare costs i.e. hospital in-patient; out-patient; GP and drug costs. However, two thirds (65%) of the economic costs were indirect representing reduced or lost productivity and absenteeism.<sup>5</sup>

### *Dietary guidelines*

The WHO published new global guidelines in March 2015 recommending that adults and children reduce their daily intake of free sugars<sup>6</sup> to less than **10% of their total energy intake**.<sup>7</sup> They also recommended that a further reduction to below 5% or roughly 25 grams (6 teaspoons) per day would provide additional health benefits. These guidelines are based on the evidence that keeping intake of free sugars to less than 10% of total energy intake reduces the risk of overweight, obesity and tooth decay. The WHO guideline does not refer to the sugars in fresh fruits and vegetables, and sugars naturally present in milk, because there is no reported evidence of adverse effects from consuming these sugars.

In July 2015 the UK [Scientific Advisory Committee on Nutrition](#) went further than the WHO when it recommended that average population intake of sugar should not exceed **5% of total energy intake** for the population aged two years upwards and that consumption of SSD should be minimised by both adults and children.<sup>8</sup> These recommendations have been accepted by the UK government and are being integrated into official UK dietary advice.

## Irish Government policies to reduce sugar intake

A ten-year [Obesity Policy and Action Plan \(2016 – 2025\)](#) was published by the Department of Health in September 2016. Based on the available evidence, the strategy concluded that reducing obesity requires a broad range of interventions including fiscal, food marketing and educational measures, an environment that supports healthy eating and physical activity, and health interventions to manage overweight and obesity. The strategy highlights the need for a multi-sectoral approach to addressing the obesity epidemic and one of the priority actions for the first year of the action plan is to:

“Develop proposals relating to the rollout of evidence-based fiscal measures, including a levy on sugar-sweetened drinks, in support of healthy eating.” (p.32)

### Box 1: Existing measures to reduce sugar intake in children and adults in Ireland

- Including a choice of healthy foods and drinks in post-primary schools. See Department of Education and Skills circular [here](#).
- Nationwide *voluntary* scheme announced in July 2012 to introduce calorie information on restaurant menus.<sup>9</sup> A Bill to *require* food premises to display calories on menus is on the [Government Legislation Programme](#) (Autumn 2016).<sup>10</sup>
- The Department of Health has worked with the Broadcasting Authority of Ireland with regard to the marketing of food and drink to children and has produced the revised “Children’s code to restrict marketing of high fat, high salt and high **sugar** food and drinks”<sup>11</sup> For more information on the code click [here](#).
- The Department of Health has [Healthy Eating Guidelines](#) which recommends limiting intake of foods from the top shelf of the pyramid (foods high in fat, **sugar** and salt). These guidelines are currently being reviewed.<sup>12</sup>



The previous [obesity strategy](#) published in 2005 outlined 93 recommendations for the prevention and treatment of obesity in Ireland. However, a review of its implementation found that only 18 of the 93 recommendations were fully implemented by 2009.<sup>13</sup> In response to these findings, the Department of Health set up the Special Action Group on Obesity (SAGO) to examine and progress a number of issues to address the problem of obesity in both adults and children.<sup>14</sup> The Special Action Group on Obesity has progressed a number of measures related to reducing sugar intake in children and adults, some of which are summarised in Box 1.

### **Policies to reduce sugar intake in other jurisdictions**

A wide range of policies have been implemented in other jurisdictions which are relevant to reducing sugar intake. These include dietary guidelines, food labelling, advertising measures, promotional measures, fiscal measures and reformulation of foods to reduce sugar content.

Although it is outside the scope of this L&RS Note to comprehensively examine the full range of policies implemented internationally to reduce sugar intake, a recent report by Public Health England<sup>15</sup> concluded that it is unlikely that a single action would be effective in reducing sugar intake and that a comprehensive, multi-action approach which includes price increases on unhealthy foods is required:

“It is unlikely that a single action would be effective in reducing sugar intakes. The evidence broadly suggests that a structured approach, involving restrictions on price promotions and marketing, product reformulation, portion size reduction and price increase on unhealthy products, implemented in parallel is likely to have a more universal effect.” (p.42)

### **Proposed tax on sugar-sweetened beverages in Ireland**

The introduction of a tax on sugar-sweetened beverages was included in the [Programme for a Partnership Government](#). It was reported in the *Irish Times* in September 2016 that the Minister for Finance, Michael Noonan, will include a tax on sugar sweetened beverages in the 2017 budget but may delay the implementation of the levy for a year until 2018.<sup>16</sup> In response to a [parliamentary question tabled in June 2016](#), the Minister for Finance Michael Noonan noted he may delay implementation of the tax till 2018 to coincide with the introduction of an SSD tax in the UK to prevent potential compliance and trade distortion issues:

“If I find that the compliance and trade distortion risks that could arise, by applying such a tax in Ireland without a similar measure in the UK, are too high, I may decide to wait until the UK Soft Drinks Industry Levy is in place before I introduce the tax.”

### **The Department of Finance’s assessment of the proposed tax**

The details of the proposed levy on SSD in Ireland have not been finalised, but the Department’s considerations on this matter are summarised in the General Excise Duties Tax Strategy Group papers of [2014](#) [2015](#) and [2016](#):

The papers outline the two types of taxes that have been levied on sugar-sweetened beverages in Europe:

- A **volumetric tax** which is imposed as a specific amount per litre of product;
- An ***ad valorem*** tax which is imposed as a percentage of the final retail price of a product.

France, Hungary, Finland and Belgium all impose volumetric taxes on sugar-sweetened drinks and the UK proposes to introduce a volumetric tax on SSD from April 2018.<sup>17</sup> The general excise papers outline the advantages of introducing a volumetric tax on SSD rather than an *ad valorem* tax of 20% as initially [proposed by the Irish Heart Foundation](#). The papers assert that a volumetric tax would be easier to administer and impose. Also, as a volumetric tax is based on the volume of the actual product rather than its price, it would apply evenly to multipacks, large volume SSD bottles and cheaper ‘own brand’ SSD products and therefore it would be more effective from a public health perspective.<sup>18</sup>

### **Challenges**

These papers highlight a number of challenges that would need to be overcome when introducing an SSD tax. These include:

- The potential impact on retailers and domestic soft drink producers;
- SSD are not defined as a *product* under the [EU general excise directive](#) which could lead to difficulties in applying excise duty to them. However, the European Commission has not, thus far, indicated that it considers the French, Hungarian or Finnish SSD duties contrary to the European Treaties.
- It may be challenging and costly for some small producers to differentiate between sugar sweetened and artificially sweetened beverages (e.g. diet soft drinks) in order to comply with a tax on SSD.
- There may also be difficulties in collecting excise duty on a product which has free movement between Member States and is not subject to the controls of a bonded warehouse like other excisable products such as alcohol, tobacco and mineral oils (thereby facilitating taxation of those products).

## **Impact assessment commissioned by Department of Health**

The Department of Health commissioned a [Health Impact Assessment of a tax on SSD](#) which was undertaken by the Institute of Public Health (IPH) in Ireland.

The 2012 report concluded that the evidence examining the relationship between consumption of SSD and weight gain was suggestive of a positive relationship, but was not conclusive - as the literature was contradictory and study quality tended to be low or medium. The IPH report also concluded that “price increases tend to decrease demand but the degree to which this happens is variable because consumer behaviour and industry response to tax is difficult to predict”.<sup>19</sup>

The report also included the results of a separate modelling exercise conducted (in parallel to the impact assessment) by a team in the University of Oxford.<sup>20</sup> The research team estimated that a 10% tax on the price of SSD would reduce obesity by 1.25% among adults in Ireland. They also predicted that a reduction in SSD consumption would occur to a slightly greater extent in women than men. However, in contrast to the conclusions of the Health Impact Assessment, the results of the modelling exercise indicated that the reduction in consumption would not differ between the income groups.

## **Stakeholder commentary**

Numerous stakeholders have called for an SSD tax including the Irish Heart Foundation, Social Justice Ireland, the Irish Medical Organisation, the Royal College of Physicians Ireland, the Irish Congress of Trade Unions and the HRB Centre for Health and Diet Research.<sup>21</sup> In contrast, the proposed tax has been criticised by representatives of the food and drinks industry in Ireland and by nutrition expert, Professor Mike Gibney.

In their [2015 pre-budget submission](#), the Irish Heart Foundation called for a 20% tax on SSD with the dual purpose of reducing consumption and providing funding for health and nutrition programmes for young people:

“Our purpose in proposing a sugary drinks tax is both to reduce consumption of these high sugar products and to provide funding for health and nutrition programmes specifically targeting children and young people. A tax on sugar sweetened drinks (SSDs) is one of several measures needed in a strategy to address obesity and food poverty.” (p.3)

In the Irish Beverage Council’s (IBC) [2016 pre-budget submission](#), they expressed their opposition to an SSD tax citing costs to consumers and industry without any improvement in public health:



“IBC recognises Ireland’s food industry as a key driver for our economy and is calling on the Government to work with industry to ensure the sector is not damaged by taxation which is costly to the consumer, damaging to Irish businesses and will make no sustainable positive contribution to public health.” (p.2)

They also argued that the tax could have unintended consequences including a rise in cross-border shopping and illicit trade and smuggling.

An [article](#) in the *Irish Times*, published in September 2016, reported that Prof Donal O’Shea, consultant endocrinologist and chairman of the Royal College of Physicians of Ireland Policy Group on Obesity refuted claims from lobby groups that it will increase household grocery bills, but will not tackle obesity:

“Lobby groups opposed to the tax claim it will threaten jobs and claim it won’t work but they have to say that. If you were to pick just one thing that would have the greatest impact in the shortest space of time it would be to introduce a tax on sugar-sweetened drinks.”

In an [opinion piece](#) in the *Irish Times* in March 2016, Mike Gibney, Professor of Food and Health at UCD, argued that a tax on SSD is a politically popular move that is acceptable to the electorate, but it will not help to reduce obesity levels. He contended that:

“Among Irish adults, about half the population does not consume sugar-sweetened beverages. Among those who do so, the average calorie intake from these products is about 35 calories a day. If the increased tax on the fizzy drink consumer reduces caloric intake by 35 per day, will they lose weight? No they won’t. That’s just not how the body works.”

## **Evidence on the effectiveness of a tax on sugar sweetened drinks**

Hungary, France, Mexico, Belgium, Australia, Finland, Norway and 34 States of the US and the District of Columbia all have taxes on SSD with some also having taxes on other sugar sweetened foods (e.g., sweets, chocolate and ice cream).<sup>22</sup> The effectiveness of a tax on SSD has been assessed using three main sources of evidence: experimental studies, modelling studies and sales data from jurisdictions with an SSD tax (see Box 2).

### Box 2: Mains types of evidence on the effectiveness of a tax on SSD

- **Experimental studies** utilise real life environments such as a hospital canteen or supermarket, or simulate real life settings in a laboratory or a virtual setting (e.g., web-based supermarket) to assess how purchasing and/or consumption of SSD by consumers is affected by price increases.
- **Modelling studies** use statistical models to estimate the likely beneficial (and harmful) effects from a hypothetical policy change such as introducing a tax on SSD. Such modelling studies use existing previously reported data to simulate the effect of various tax scenarios on outcomes such as sales and consumption of SSD.
- **Sales data and other outcomes** such as obesity levels can be assessed in jurisdictions which have introduced an SSD tax data to examine its effectiveness.



### Sales data

Data on the effectiveness of taxes on unhealthy foods suggests that a reduction in sales has been observed as a result of these taxes in Norway, Finland, Hungary, France and Mexico.<sup>23</sup> Although some of the studies were not of high quality, robust evaluations have been published for some countries, such as Mexico and Hungary. A recent study published in the *British Medical Journal* showed that following the introduction of a 10% tax on SSD in Mexico, a 6% reduction in purchases of SSD was observed in 2014. Additionally, higher reductions in purchasing of around 9% in lower socioeconomic households were seen. An increase of 4% in the purchases of untaxed beverages was also observed mainly driven by an increase in purchases of bottled plain water.<sup>24</sup> The results of an evaluation of the taxes imposed on unhealthy foods in Hungary are described in Box 3.

**Box 3: Case study of public health product tax in Hungary**

The Hungarian Government introduced a public health product tax in 2011 which was aimed at products for which healthier alternatives were available.<sup>25</sup> The tax was introduced in response to the population's high levels of obesity and the heavy consumption of foods high in fats, salts and sugars. The tax has the specific objectives of promoting both healthier eating by individuals and product reformulation by manufacturers. The revenue generated by the tax is allocated for the healthcare budget and is currently used to supplement the salaries of health professionals. The categories of food which the tax applies to are:

- Sugar sweetened beverages;
- Salted snacks; and
- Flavoured alcohol and fruit jams.

The tax was initially wider, including fast foods, chips and bakery products, but the food industry was able to argue successfully for exemptions for these food categories. The tax rate for sugar sweetened beverages and energy drinks in Hungary are shown in Table 1 below.

**Table 1:** Taxes on sugar-sweetened beverages and energy drinks in Hungary

Category	Product	Threshold	Tax rate
<b>Sugar-sweetened beverages</b>	Sugary drinks	Tax applicable for drinks with added sugar >8 g/100ml	7 HUF/litre (€0.02/litre)
	Syrups or concentrates	Drinks with >25% fruit content exempt	200 HUF/litre (€0.65/litre)
<b>Energy drinks</b>	Containing methyxanthines	>1 mg /100ml	250 HUF/litre (€0.81/litre)
	Containing taurine	>100 mg/100ml	250 HUF/litre (€0.81/litre)

**Source:** WHO regional office for Europe (2015) *Using price policies to promote healthier diets*. WHO: Copenhagen. Available [here](#)

In 2013 the taxes generated HUF 18.9 billion (€61.5 million). In response to the policy manufacturers continually reformulated their products, particularly energy drinks, to avoid the tax. Public sentiment towards the tax has been reported to be negative.<sup>26</sup> A significant proportion of the population believes the tax is a revenue-generating instrument rather than a public health instrument and industry argues that the tax leads to equity issues, product discrimination and possible job/income losses.

### Impact Assessment

A health and financial impact assessment of the tax was conducted with the support of the WHO regional office for Europe in 2013.<sup>27</sup> The impact assessment revealed that sales of products subject to the tax have fallen by 27%, with a 20-35% decrease in consumption observed. Additionally, Cornelson & Carriedo (2015) reported that sales of cola in Hungary reduced by 2.7% in 2011, 7.5% in 2012 and by 6% in 2013.<sup>28</sup>

An additional benefit observed by the impact assessment has been the response of manufacturers in removing or substantially reducing the taxed ingredients in their product through reformulation.<sup>29</sup>

It is also estimated that the tax has had an impact on population level consumption of salt and sugar, particularly among high consumers (such as young men who are the largest consumers of SSD).<sup>30</sup>

### Modelling studies

A 2014 systematic review found that all modelling studies examining SSD taxes showed a reduction in purchases proportionate to the tax applied and many showed a reduction in overall calorie intake.<sup>31</sup> A 2015 report by Public Health England highlighted that evidence from economic modelling studies suggests that:<sup>32</sup>

“a tax of 10% to 20% would be necessary to have a significant impact on purchases, consumption and ultimately population health.” (p.4)

### Reviews of the evidence

A 2015 review by Public Health England of **experimental studies** that examined the effect of fiscal measures targeted at high sugar foods and non-alcoholic drink concluded that:

“...increasing prices of high sugar foods and non-alcoholic drinks, potentially through taxation, may reduce purchases of these products proportionate to the level of the price increase imposed.”<sup>33</sup> (p.35)

They also noted that the experimental studies which did not report an effect had implemented a relatively low tax compared with other studies. The authors also concluded that the findings from experimental studies appeared to complement the evidence from **modelling studies** and **sales data** from countries with taxes, showing a trend towards fiscal measures impacting on sales/purchasing providing the tax levied is large enough.

A [2016 academic paper](#) reviewed the evidence from 11 studies on the impact of a tax on sugar sweetened beverages across socio-economic strata. They found that of the seven studies that reported on changes in weight outcomes for the total population following an increase in the price of SSD, all reported either similar reductions in weight across socio-economic strata or greater reductions for lower compared with higher socio-economic groups. They also concluded that a tax on SSD is consistently shown to be financially regressive, but to a small degree (low-income households spent 0.10% - 1% of their annual household income on an SSD tax, versus 0.03% - 0.6% for high-income households).

The European region of the WHO published [a 2015 review](#) of the evidence on using price policies to promote healthier diets. They concluded that taxes on sugar sweetened beverages and targeted subsidies on fruit and vegetables emerge as the policy options with the greatest potential to induce positive changes in consumption. In relation to policy formation, they recommended that based on the evidence, price policies should focus on influencing purchasing and consumption behaviour rather than reducing population body weight and disease:

“...the most accurate and effective *objectives for price policies* will focus on their upstream potential to influence purchasing and consumption behaviour, rather than on downstream effects such as body weight or disease which are also influenced by a large number of other factors. In this way, price policies will contribute to the overall aim of reducing overweight and obesity and diet-related NCDs, rather than to the comprehensive achievement of the aim in isolation from other policy measures.” (p. 31)”

The report also highlights the importance of identifying clear policy objectives, foreseeing unintended effects of the policy, and establishing baseline data at the outset in order to evaluate the effects of the policy.

A [2013 meta-analysis](#) examined the impact of SSD taxes or prices increases on consumption levels, obesity, overweight and body mass index (BMI) across nine studies. All of the studies showed that higher prices are associated with a lower demand for SSD. In addition, higher prices for SSD were associated with increased demand for alternative beverages such as fruit juice, milk and diet drinks. The results also suggested that a higher price for SSD could lead to modest reductions in population weight.

## Key messages from the evidence examined

- Evidence from a range of sources (sales data, modelling studies and experiments) appears to indicate that price increases for SSD will lead to a decrease in sales provided the tax levied is high enough (around 10-20%).
- There is less evidence on the impact of an SSD tax on health outcomes such as obesity levels, although the available data indicates that higher prices for SSD could lead to modest reductions in population weight.
- A recent review of the academic evidence concluded that an SSD tax is consistently shown to be regressive (i.e. low-income households spend a higher proportion of their household income on it than high-income households), but to a small degree.

<sup>1</sup> Public Health England (2015) *Sugar Reduction - The evidence for action*. Available [here](#).

<sup>2</sup> Malik, V.S. et al. (2006) Intake of sugar-sweetened beverages and weight gain: a systematic review; *Am J Clin Nutr*; 84: 274–88. Available [here](#).

<sup>3</sup> Vartanian, L.R. et al. (2007) Effects of Soft Drink Consumption on Nutrition and Health: A Systematic Review and Meta-Analysis; *American Journal of Public Health*; 97 (4): 667-675. Available [here](#).

<sup>4</sup> Irish Universities Nutrition Alliance (2011) National Adult Nutrition Survey Summary Report. Available [here](#).

<sup>5</sup> The cost of overweight and obesity on the Island of Ireland - Executive Summary Available [here](#).

<sup>6</sup> Free sugars have been defined by the WHO as monosaccharides (such as glucose, fructose) and disaccharides (such as sucrose or table sugar) added to foods and drinks by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates

<sup>7</sup> WHO (2015) Guideline: sugars intake for adults and children. Available [here](#).

<sup>8</sup> Scientific Advisory Committee on Nutrition (2015) [Carbohydrates and health](#)

<sup>9</sup> Response by Minister for Health, Leo Varadkar (10<sup>th</sup> February 2015) to PQ on [Calorie Posting on Menus](#)

<sup>10</sup> As stated in the Government Legislation Programme (Autumn Session 2016), the Heads of the Health & Wellbeing (Calorie Posting and Workplace Wellbeing) Bill are currently being drafted.

<sup>11</sup> Response by Minister for Health, Leo Varadkar (25<sup>th</sup> February 2015) to PQ on [Obesity Strategy](#)

<sup>12</sup> Ibid

<sup>13</sup> Department of Health and Children. (2009). Report of Inter-sectoral Group on the Implementation of the Recommendations of the National Task Force on Obesity. Available [here](#).

<sup>14</sup> Response by Minister for Health, Leo Varadkar (25<sup>th</sup> February 2015) to PQ on [obesity strategy](#)

<sup>15</sup> Public Health England (2015) *Sugar Reduction The evidence for action*. Available [here](#).

<sup>16</sup> *The Irish Times* (Sep 5<sup>th</sup> 2016) "Sugar tax set to be introduced in budget due to obesity concerns" Available [here](#).

<sup>17</sup> Response by Minister for Finance, Michael Noonan (9<sup>th</sup> June 2016), to PQ on [tax code](#)

<sup>18</sup> Ibid

<sup>19</sup> Response by the then Minister for Health, Leo Varadkar (14<sup>th</sup> July 2015) to PQ on [health promotion](#).

<sup>20</sup> The modelling exercise by a team in Oxford was conducted in parallel to the Health Impact Assessment by the Institute of Public Health and the results of both were included in the one report.

<sup>21</sup> Response by Minister for Finance, Michael Noonan (19<sup>th</sup> July 2016) to PQ on [tax code](#).

<sup>22</sup> Public Health England (2015) *Sugar Reduction: The evidence for action* Annexe 2: A mixed method review of behaviour changes resulting from experimental studies that examine the effect of fiscal measures targeted at high sugar food and non-alcoholic drink. Available [here](#).

<sup>23</sup> Public Health England (2015) *Sugar Reduction - The evidence for action*. Available [here](#).

<sup>24</sup> Public Health England (2015) *Sugar Reduction: The evidence for action* Annexe 2: A mixed method review of behaviour changes resulting from experimental studies that examine the effect of fiscal measures targeted at high sugar food and non-alcoholic drink. Available [here](#).

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<sup>25</sup> WHO regional office for Europe (2015) *Using price policies to promote healthier diets*. WHO: Copenhagen. Available [here](#).

<sup>26</sup> Ibid

<sup>27</sup> WHO regional office for Europe (2015) *Using price policies to promote healthier diets*. WHO: Copenhagen. Available [here](#).

<sup>28</sup> Cornelson, L. and Carriedo, A. (2015) *Health-related taxes on foods and beverages*. Food Research Collaboration Policy Brief. Available [here](#).

<sup>29</sup> WHO regional office for Europe (2015) *Using price policies to promote healthier diets*. WHO: Copenhagen. Available [here](#).

<sup>30</sup> Ibid

<sup>31</sup> Thow, A.M. et al. (2014) A systematic review of the effectiveness of food taxes and subsidies to improve diets: Understanding the recent evidence *Nutrition Reviews* Cited in: WHO regional office for Europe (2015) *Using price policies to promote healthier diets*. WHO: Copenhagen. Available

<sup>32</sup> Public Health England (2015) Sugar Reduction: The evidence for action Annex 2: A mixed method review of behaviour changes resulting from experimental studies that examine the effect of fiscal measures targeted at high sugar food and non-alcoholic drink. Available [here](#).

<sup>33</sup> Ibid