Food and soft drinks manufacturers are continually reformulating their products and bringing new products to market in response to consumer demand. In recent years, there has been growing interest in mandatory reformulation to reduce the salt, sugar and/or fat content of food.

The UK has gone furthest down this road with a broad reformulation scheme which is technically voluntary but is being undertaken with the threat of legislation. The British scheme highlights several problems with state-sanctioned for reformulation:

1) It can penalise companies that have already made significant changes to their products.
2) It can lead to smaller products being sold at the same price.
3) It restricts choice by effectively banning the original recipe.
4) The targets can be unrealistic and arbitrary.
5) For these reasons, it can be unpopular with the public.

Introduction
The food industry is highly competitive and innovative. Its products are being constantly reviewed and reformulated to maintain or gain market share. As with other fast-moving consumer goods, the vast majority of new food products are withdrawn from the market within a year, while some leading brands have been popular for decades. Manufacturers are naturally reluctant to modify their most trusted brands, but are generally happy to create ‘spin-off’ products, such as low-sugar or organic alternatives. Food and soft drinks appeal to consumers on the basis of four key factors: taste, price, convenience and health. Historically, consumers have wanted energy-dense food at the lowest price but as countries become more affluent the problems of scarcity and hunger are replaced by the problem of obesity. Many consumers want to consume fewer calories but - crucially - they do not want to sacrifice flavour. This poses a challenge to the food industry because human beings have evolved to find calorific ingredients such as fat and sugar tasty.

In recent decades, the food and soft drinks industries have spent vast sums of money producing and marketing products which can be branded as ‘healthy’ or ‘healthier’. Taking their cue from nutritional science, they have reformulated products with less fat, salt and sugar to appeal to more health-conscious consumers. In most cases, they have created alternative brands to give consumers more choice but some flagship brands have also been subtly altered. Many of the alternative varieties have flopped, but some have succeeded. Diet soft drinks were niche products 40 years ago but are now extremely popular. Various sweeteners, including Stevia, aspartame and saccharine, have been used to mimic the taste of sugar. Full fat milk used to be the norm but skimmed and semi-skimmed milk now make up 80% of milk sales in the UK (semi-skimmed has less than half the fat content and two-thirds of the calories) (Munday and Bagley 2017). Processed food with less salt, sugar and/or fat has proliferated and many low-calorie products are successfully marketed as ‘light’ or ‘diet’ variants.

The supermarket chain Tesco claims to have ‘removed over 8,000 tonnes of sugar, fat and salt from over 2,000 products’ since January 2016 (Ewart 2017). In a survey of 102 global food companies, the Consumer Goods Forum (2017: 8) found that 180,000 products on shop shelves in 2016 had been ‘formulated to support healthier diets and lifestyles’.

State-sanctioned reformulation is not without historical precedent. A few countries, such as Denmark, have placed a legal limit on trans-fat levels in food (although most countries have seen a sharp decline in trans-fat consumption without state intervention). Several countries, such as Australia, require minimum levels of folic acid in bread to prevent children being born with spina bifida. British law requires calcium carbonate, thiamin and nicotinic acid to be added to most flour. Ireland and a number of US states have laws requiring drinking water to be fluoridated to prevent tooth decay.

But using the law to restrict the use of core ingredients for the purpose of reducing the calorie content of food is a new development. As yet, no government has legislated in this area. In Britain, a salt reduction scheme began in 2006 as a voluntary initiative between government and industry. This is believed to have resulted in a 5.1% reduction in salt consumption by 2011 (Griffith et al. 2016: 2). Although the European Commission reported in 2012 that all member states had some form of salt reduction scheme at work, it said that ‘the only country that had reported systematically engaging with and tracking the actions of individual companies through Clearly, it is possible to reformulate food products without losing customers. So far, these innovations have been mostly driven by consumer preferences and without government intervention, but there is growing interest in mandatory targets being set to ensure that reformulation continues.

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commitments and action plans' was the UK. The British government has since followed up its anti-salt activity with an ambitious sugar reduction plan that aims for a decline in sugar content in food by 20% by 2020. This scheme, which involves similar targets for fat and calories in its next phase, is technically voluntary but the government has threatened legislation if its targets are not met and has promised to ‘name and shame’ companies which fail to meet them. A sugar levy is also being introduced (in April 2018) with the specific aim of making companies reduce sugar content in soft drinks. The programme is therefore somewhat coercive. Co-ordinated by Public Health England, this ‘health by stealth’ approach has only been underway since 2016 but it has already highlighted some of the problems with mandatory reformulation:

1. It can penalise companies that have already made significant changes to their products
   As mentioned above, food companies have been reformulating products to reduce sugar, fat and calories for years, without pressure from government. Some degree of reformulation is often possible without having a noticeable effect on taste, but beyond a certain point the product becomes unpalatable. By requiring all companies to meet the 20% target, Public Health England is effectively punishing firms that have already reduced sugar content. Those which have not modified their products will find their task easier, leaving them with the commercial advantage of having a tastier product by 2020.

2. It can lead to smaller products
   In 2014, a newly formed pressure group called Action on Sugar began whipping up concern about the amount of sugar in savoury products such as ready meals, bread and pasta sauce. The sugar reduction programme includes these products but has also been extended to include items such as chocolate, cakes, biscuits and confectionery for which sugar is absolutely integral. The assumption that companies are making excess profits is not necessarily fair - reducing portion sizes requires capital investment in new machinery and packaging - but consumers get a worse deal nonetheless.

3. It restricts choice by effectively banning the original product
   Under consumer-driven reformulation, companies typically add a new low-sugar, low-fat or low-salt product to the market in addition to the original brand. This allows consumers freedom of choice. State-driven reformulation, by contrast, requires modification of the entire product range and effectively removes the original recipe from the market. This is a restriction of choice and is unfair to consumers, many of whom neither want nor need to restrict their calorie intake.

4. It can be unpopular
   Because of the restriction of choice and shrinkflation (see above), reformulation can be unpopular with the public. Advocates of reformulation point to various products which were modified to reduce salt content without the public noticing or objecting. But reducing salt from savoury products is a relatively simple process compared with the task of removing sugar from sweet products. People tend to notice when sugar is removed from their trusted brands.

The targets can be unrealistic and arbitrary
   Rather than make a realistic assessment of what can be achieved, the UK government seems to have picked a figure that fits in with the date of the deadline. Public Health England has no expertise in food manufacturing and seems to have been overly optimistic about what can be achieved in such a short timeframe. The 20% target is a classic top-down, command and control diktat.

Conclusion
   Food can be reformulated to be made less calorific but the process is by no means simple. It can be practically impossible for some products. Governments can force companies to change their products but they cannot force consumers to buy them. Gradual reductions in salt, fat and sugar can sometimes be made, but there is a limit to how far reformulation can go before consumers reject it. Many consumers do not enjoy the taste of artificial sweeteners and are not interested in reducing their sugar intake. Mandatory reformulation is a way for governments to bypass consumer preferences by putting pressure on manufacturers. The pioneering British scheme will show how far this coercive approach can be pushed before it creates a public backlash. It remains at an early stage and many of the newly reformulated products have not yet reached the market, but it would not be surprising if consumers respond negatively to the changes.
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