Swedish Supermarkets and the Promotion of Unhealthy Food

SUPERLIST SWEDEN HEALTH 2022

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In this pilot study we collaborate with Reformaten, an organisation with specific expertise on the Swedish public debate around healthy and sustainable food.

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This project was only made possible by the generous contributions of the Swedish Postcode Foundation.

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Questionmark | SVENSKA POSTKOD STIFTELSEN | Reformaten

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Supermarkets Encourage Unhealthy Consumption through Multi-buy Promotions

EXECUTIVE SUMMARY

➜ *Nearly half of online food promotions in Swedish supermarkets are for products high in saturated fat, sugar and salt.*

➜ *Four out of five unhealthy food promotions are 'multi-buys', requiring the consumer to purchase multiple units.*

Nearly half of online food promotions were for products that are high in fat, sugar and salt. Furthermore, four out of five unhealthy promotions are multi-buys, such as 'buy one get one free' or '3 for 50 kr', with Coop promoting the largest share as well as the largest absolute number of these unhealthy multi-buys. This type of promotion gives consumers an incentive to purchase multiple units. Research in the UK has pointed out that promotions in general stimulate consumers to buy more of a certain product, but also of the promoted category in general (PHE, 2020). This effect is the strongest for multi-buy promotions.

These findings illustrate that Swedish supermarkets contribute to unhealthy diets in Sweden by offering multi-buy promotions for unhealthy products. At the same time, supermarkets can play a role in combating obesity by proactively focusing their promotional techniques to increase sales of healthier products.

FOREWORD

Unhealthy diets in many cases lead to serious health problems and an increased risk of (chronic) diseases in adulthood. At this moment almost no one in Sweden eats and drinks truly healthy and 1 in 2 adults are overweight. Not surprising when you realize that unhealthy products are often cheaper and available in many more places and that they are advertised a lot compared to healthy products. Supermarkets cover a large share of the food provision, because around 70 percent of what people eat on a daily basis is bought in supermarkets.

With our research we try to understand how supermarkets make healthy and sustainable food the easy choice. By publishing our findings in the form of rankings and concrete recommendations, we motivate and support supermarkets in improving their performance. In this specific Superlist Health study we seek to understand the role Sweden's largest supermarkets play in creating a healthy food environment. This role is assessed based on the share and type of promotions specifically aimed at unhealthy food. Through this publication and through our collaboration with Reformaten we intend to motivate and support Coop, Hemköp, ICA and Willys in helping their customers adopt healthy diets.

I would like to thank the Questionmark Research Team and Reformaten for their dedication in producing this research and publication. We are grateful to the Swedish Postcode Foundation that they are supporting us in making a positive impact on the Swedish food system.

CHARLOTTE LINNEBANK

Director, Questionmark Foundation

Questionmark

What is Superlist?

Supermarkets play a key role in influencing consumers' food purchases, as they account for 72% of total food consumption in Sweden (SVDH, n.d.). This gives them the opportunity to make Swedish food habits healthier and more sustainable. Superlist is a research programme aimed at helping supermarkets recognize these opportunities. Through the findings and recommendations included in Superlist, Questionmark Foundation is seeking to help supermarkets seize this opportunity.

Superlist is a multi-year research project that provides insight into what supermarkets are doing to drive healthier and more sustainable food and drink purchases. Superlist also provides a tool to monitor and track supermarkets actions in this area, identify which companies are leading the way and which are lagging behind, and what they can do to improve their position.

Collaboration with Reformaten

For this project we collaborated with Reformaten. Reformaten is a Swedish association that aims to accelerate a research-based transformation of the food system in favour of human and planetary health. Within this project they contributed their knowledge on health and their expertise on the Swedish public debate to the report. Within this project they contributed their knowledge on health and their expertise on the Swedish public debate to the report.

Governance

Questionmark Foundation is a European think tank. Its mission is to contribute to the public debate around healthy and sustainable diets by providing facts, figures and arguments. Questionmark Foundation is governed by an independent board whose members have no commercial interests in the food industry. Questionmark does not receive any funding that is directly or indirectly related to the Swedish retail or food industry. This project is financed by the Swedish Postcode Foundation. Our integrity policy can be found on our website.

Methodology

The research methodology for this pilot study was published on the 5th of July on thequestionmark.org. The methodology was based on our general Research Framework, also available on our website. Any deviations from the framework in this pilot, such as the limited scope of the indicators, are due to the pilot status of this project.

Scope

The scope of this pilot entails four supermarkets: Coop, Hemköp, ICA and Willys. These supermarkets are represented by the three largest Swedish grocery retail groups in terms of market share: Axfood (18.9%, including Hemköp and Willys), Coop (18,1%) and ICA (52.5%). The total market share of this selection adds up to approximately 88 percent. A full scope Superlist covers all major supermarkets with a cumulative market share of at least 85 percent in a country or region.

For Coop, Hemköp and Willys the general websites were used to scrape the data on products and promotions. For ICA, the store ICA Kvantum Värtan was selected on the website[1]. ICA consists of different store profiles, including Maxi, Nära, Kvantum and Supermarket stores. The analyses of this study build on ICA Kvantum.

Research period

Data on assortment and promotions for this pilot study were collected for 6 weeks between August 15th and September 26th 2022. During this period, each supermarket's online store was visited weekly. For a full scope Superlist, the data collection period is at least 8 weeks.

Twin publication

Based on the same data as used for this report, a separate study has been conducted considering meat products promoted by Swedish supermarkets. The report 'Swedish Supermarkets and the Promotion of Meat' was published in November 2022 and is available on our website.

[1]For online shopping at ICA, a visitor must select a specific store. Hence, also for data collection, a particular store was selected to scrape the promotions. The store ICA Kvantum Värtan was selected. This is a relatively large store with a wide range of products.

Introduction

Supermarkets are in an influential position to encourage healthier and sustainable food choices. Promotions are a powerful tool to nudge purchasing decisions. In this study we examined how four Swedish supermarkets promote unhealthy food products using price promotions.

Background

Food intake and health

Around 50 percent of adults in Sweden are overweight or obese. Obesity is among the main five risk factors in Sweden for healthy years of life being lost (Folkhalsomyndigheten, 2022). Among the main drivers of this problem are unhealthy eating habits with high intakes of saturated fat, salt and sugar. The Swedish dietary guidelines should shift the consumption patterns with large amounts of animal food products, to a pattern that includes more plant-based foods (Livsmedelsverket, 2015). Such a shift would be beneficial for both health and the environment.

Impact of promotions

Promotions can influence a consumer's decision to purchase, then eat, more food. Research in the UK has pointed out that promotions tend to stimulate consumers to buy more of a certain product, but also of the promoted category in general (PHE, 2020).

Multi-buys lead to overconsumption

In this study, we distinguish two types of price promotions: multi-buy promotions (e.g. "3 for 20 kr", or "buy one get one free") and temporary price reductions (e.g. "10% off" or "now only 15 kr"). Compared to temporary price reductions, multi-buy promotions provide a stronger incentive for people to buy more of the promoted product. Research in the UK shows that up to 27 percent of the volume of a product bought within a standard '2-for-1' promotion should be considered as a net increase of the entire product category (PHE, 2020). In other words: over a quarter of the products bought on a 2-for-1 promotion are extras, not compensated by a decrease in sales of similar products. Therefore, multi-buy promotions for unhealthy products can stimulate unhealthy eating habits.

British ban

From October 2023 onwards, the UK government will put a ban on multi-buy promotions of products high in fat, salt or sugar (henceforth: HFSS promotions), in an attempt to curb the epidemic of lifestyle related diseases such as obesity and diabetes. This regulation is the first of its kind worldwide and was based on rigorous research into the effects of food promotions on consumption.

The UK legislation will not put a stop to all unhealthy multi-buy promotions. The ban does not focus on 'low risk' categories, which includes product categories that do not significantly contribute to children's calorie intake, such as pies and savoury pastries, cheese and alcoholic drinks (GS1 UK, 2022). In this study, the division between high risk and low risk product categories was not made for Sweden, since those exemptions were a national decision based on UK product categories.

Research method

This study is based on two indicators. For the first indicator, we looked at unhealthy promotions as a ratio of total online food promotions. As a second indicator we investigated multi-buy promotions as a ratio of total unhealthy food promotions. For the latter indicator, we look at two types of promotion in particular: multi-buy promotions and temporary price reductions. We analysed the promotions for all unhealthy products during the six-week research period. Subsequently we classified each promotion as either multi-buy or temporary price reduction.

Unhealthy food

There is no specific Swedish nutrient profiling model available that would enable us to classify individual products as 'unhealthy'. The Keyhole model (Livsmedelsverket, 2022), the official instrument supported by the government, was developed primarily to identify the healthier end of the food spectrum, not the particularly unhealthy end. In absence of a specific Swedish model and in order to allow a good comparison with UK food regulation, we apply the UK definition of unhealthy food.

We used the British Nutrient Profiling Model (NPM) to assess the balance of nutrients in a product (UK Health Department, 2011). If a product contains levels of fat, salt or sugar that are not in balance with more beneficial nutrients, the product is considered 'HFSS' (High in Fat, Salt or Sugar) (see figure 1 for examples of HFSS products). If, on the other hand, beneficial nutrients and nutrients to be avoided are in balance with each other, the product is considered 'healthier'. The term 'healthier' is relative to the most unhealthy (HFSS) products and thus includes products that are not particularly healthy. Besides fruits and vegetables, it also includes products such as sugar-free soft drinks, white bread and coco pops (see figure 2).

The analysis was done algorithmically for the most part, using (a.o.) the nutritional data, product category and the ingredient list from the online stores. In case data were missing, we used assumptions on the level of the product category. For a detailed account of our analysis we refer to the annex.

Figure 1. Examples of products that were promoted during the research period that the NPM used in this study classifies as HFSS, based on the combination of nutritional values of the product.

Figure 2. Examples of products that were promoted during the research period that the NPM used in this study classifies as 'healthier', based on the combination of nutritional values of the product.

Supermarkets Promote Unhealthy Products through Multi-buy Promotions

INDICATOR 1: THE NUMBER OF UNHEALTHY PROMOTIONS AS A RATIO OF TOTAL ONLINE FOOD PROMOTIONS.

INDICATOR 2: THE NUMBER OF UNHEALTHY MULTI-BUY PROMOTIONS AS A RATIO OF TOTAL UNHEALTHY FOOD PROMOTIONS.

- *Nearly half of online food promotions in Swedish supermarkets are for products high in fat, sugar and salt.*
- *Four out of five of these unhealthy food promotions give an incentive to purchase multiple units.*

Over the course of the six-week data collection period, we registered over 13,300 food promotions.

Figure 3 shows the total promotions during the research period for the different supermarkets.

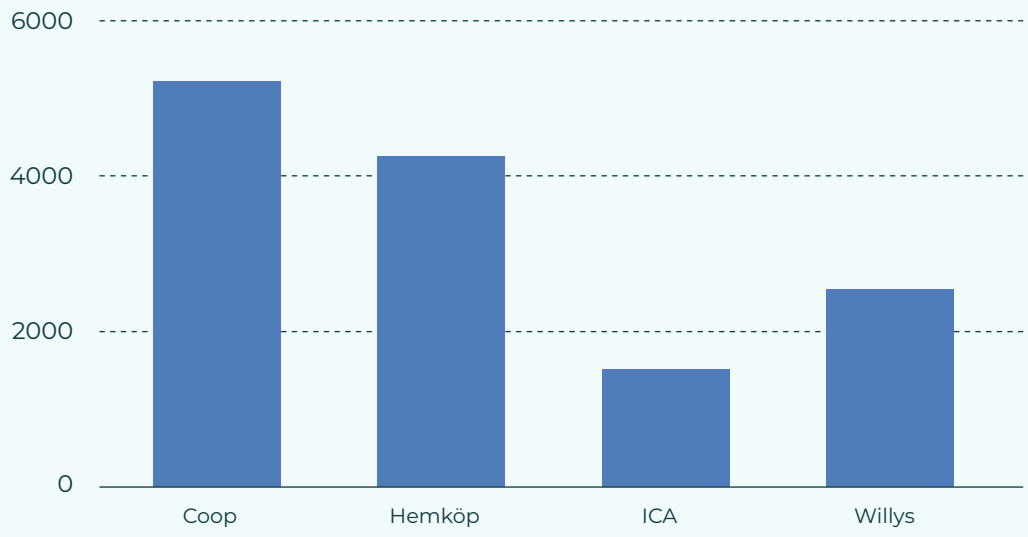

Figure 3. The total number of promotions per supermarket during the six weeks of data collection.

Figure 3 shows that the number of promotions largely differed between the supermarkets. It appears that Coop had the largest number of total promotions (5,187) whereas ICA had the lowest number of promotions (1,421).

For all products that were promoted during the research period, we applied the British Nutrient Profiling Model to classify a product as either HFSS (also referred to as *unhealthy*) or not HFSS (*healthier*). Of all food promotions, over 6,500 unhealthy promotions were registered during the research period, which account for almost half of total promotions. Figure 4 gives a breakdown of the healthier and unhealthy promotions per supermarket.

Out of all promotions that could be classified as either *unhealthy* or *healthier*, 58 percent were unhealthy products and 42 percent were classified as *healthier*. Although for a number of products the available data did not allow classification (referred to as *unknown*), it can be concluded that the share of unhealthy promotions was generally bigger than the share of healthier promotions (see figure 4). The figure shows that the ratio between unhealthy and healthier promotions was roughly the same for all supermarkets. However, since the absolute numbers of promotions differ between supermarkets (see figure 3), it can be concluded that the absolute numbers of unhealthy promotions are different for the supermarkets.

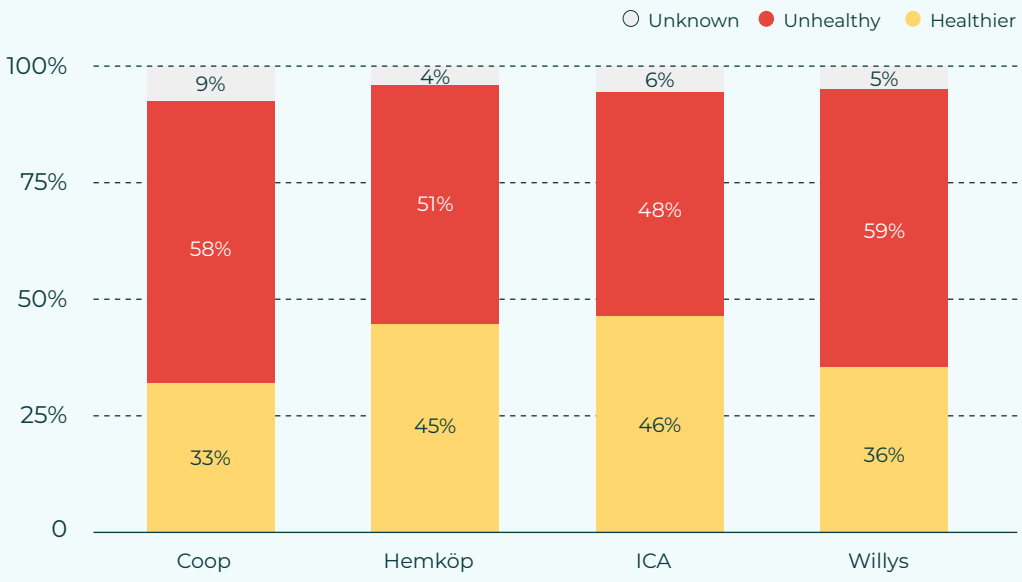

Figure 4. The share of unhealthy promotions for each of the four supermarkets.

Furthermore, the products that were promoted by the four supermarkets were categorised into product groups. Figure 5 shows the number of unhealthy products that were most heavily promoted, categorised into the specific product groups.

When looking at the unhealthy products that were promoted, products within the product groups *soft drinks* (624), *chocolate bars* (538), and *crisps* (320) were most heavily promoted by the supermarkets during the research period (figure 5).

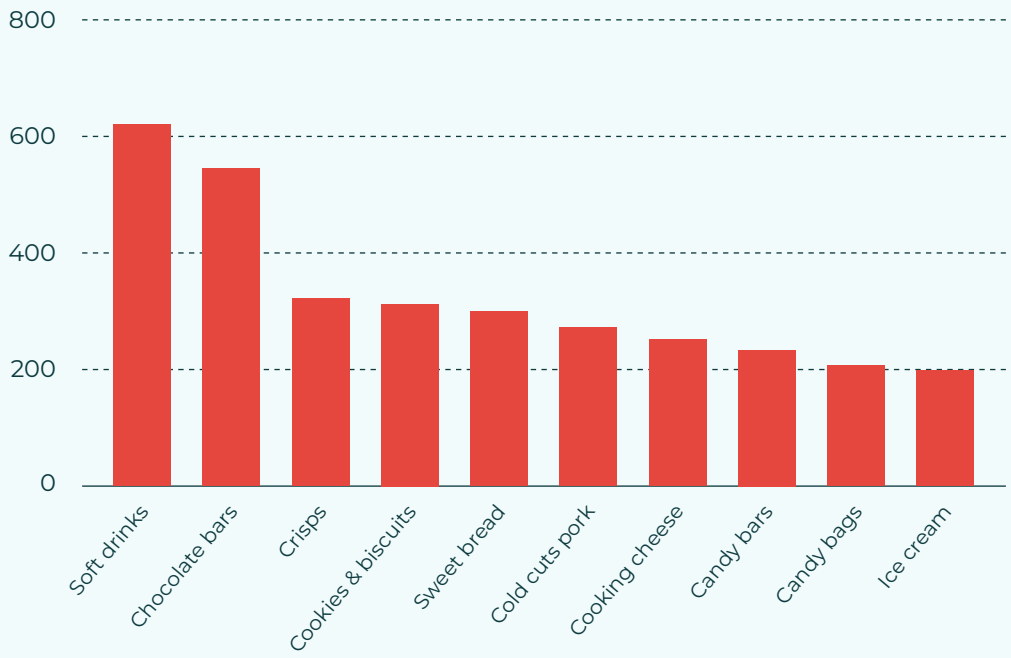

Figure 5. The most heavily promoted unhealthy products.

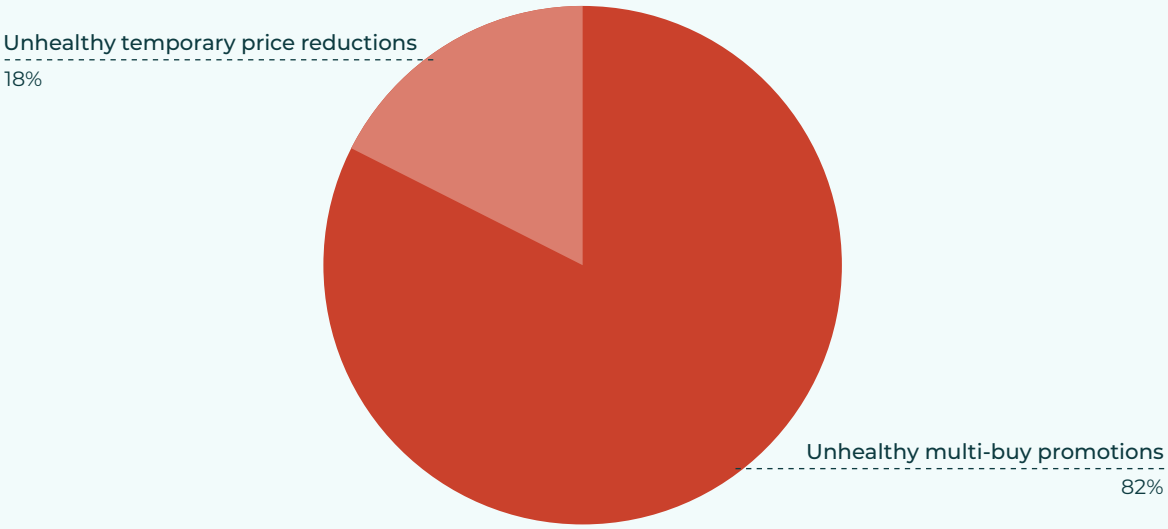

Figure 6. The share of unhealthy multi-buy promotions out of total unhealthy promotions.

Due to the link between multi-buy promotions and increased consumption, it is relevant to analyse the type of promotion used among unhealthy promotions. Figure 6 provides the share of unhealthy multi-buy promotions out of total unhealthy promotions, as registered during the research period.

In a period of six weeks, we registered over 5,400 multi-buy promotions for unhealthy products. In total, 82 percent of all unhealthy promotions were promoted by multi-buy (figure 6). For examples of such promotions, see figure 7.

Figure 7. Examples of unhealthy products that were promoted by multi-buy at Coop, ICA, Willys and Hemköp during the research period.

In figure 8, these results are presented per supermarket. From figure 8, it can be concluded that Coop used multi-buy as a promotion type for unhealthy promotions most often (92 percent) compared to the other supermarkets. ICA has the lowest share of multi-buys for unhealthy promotions (59 percent), while the share of multi-buy promotions still covers the majority of its unhealthy promotions. Where supermarkets differentiate from each other in the share of unhealthy multi-buy promotions, supermarkets also seemed to differentiate in the absolute number of promotions (see figure 3). Whereas ICA promoted 360 unhealthy multi-buys during the research period, Coop promoted over 2,400 in the same period of time.

Moreover, a comparison is made between the results from the Swedish supermarkets and the outcomes of the pilot study performed in the UK. This was done, because the use of multi-buys has led to discussion in the UK and is followed by

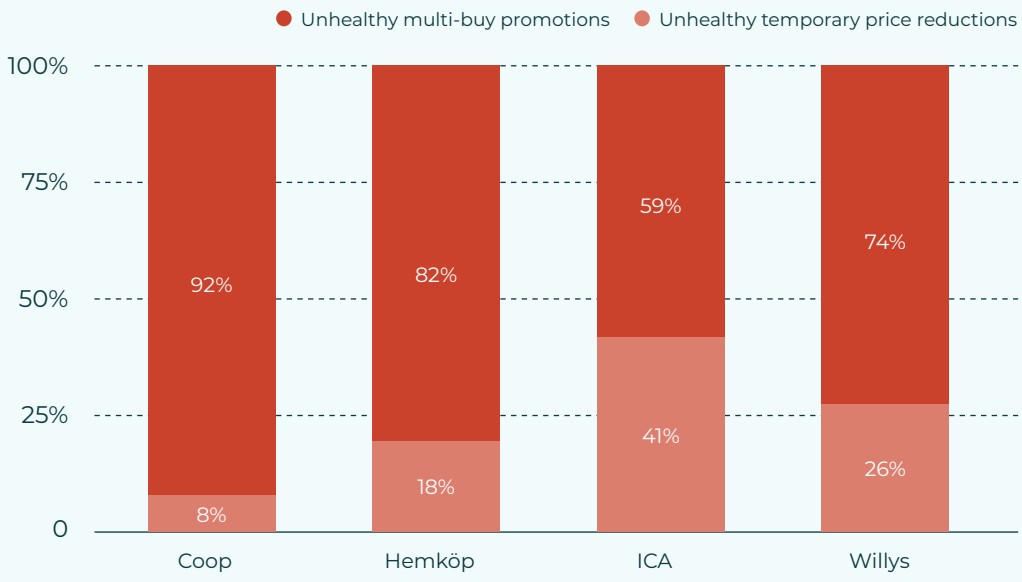

Figure 8. Multi-buy promotions out of total unhealthy promotions for each of the four supermarkets.

an upcoming ban on unhealthy multi-buys. The comparison between the outcomes in Sweden and the UK is presented in the figure below.

From figure 9, it appears that the share of unhealthy promotions was roughly similar for both countries. However, the use of multi-buys for unhealthy promotions is much more prevalent in Sweden compared to the UK. The results also show that Swedish supermarkets made more use of multi-buy promotions for unhealthy products (82 percent) than UK supermarkets (28 percent).

It is important to note here that one of the four British supermarkets, Sainsbury's, has an official policy that it refrains from multi-buy promotions for HFSS products. This results in a higher overall share of temporary price reductions and a lower overall share of multi-buy promotions for UK supermarkets. When excluding Sainsbury's from this analysis, 60 percent of unhealthy products were promoted by multi-buys by the remaining UK supermarkets, compared to 82 percent by Swedish supermarkets.

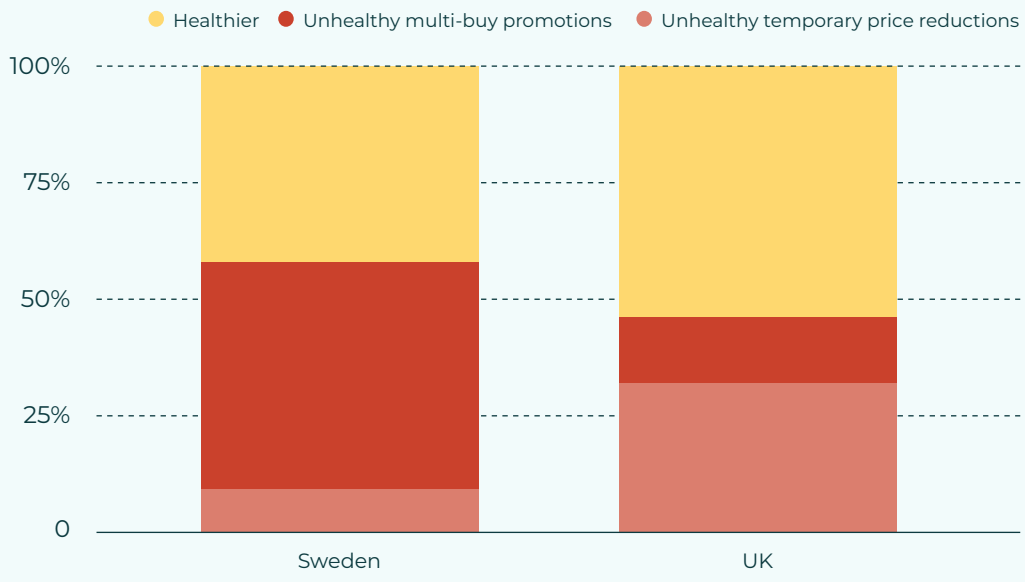

Figure 9. A comparison between Swedish supermarkets and UK supermarkets, the share of unhealthy promotions and the share of unhealthy multi-buys.

Conclusions and Recommendations

- *Over 6,500 unhealthy promotions were registered, which account for nearly half of total online food promotions by supermarkets.*
- *Four out of five unhealthy food promotions are promoted by multi-buy and thus give an incentive to purchase multiple units.*

Nearly half of online food promotions are for products that are high in fat, sugar and salt. Furthermore, in total, 82 percent of all unhealthy promotions are promoted by multi-buy. Supermarkets differentiate from each other in the share of unhealthy multi-buy promotions as well as the absolute number of promotions. Whereas ICA promoted 360 unhealthy multi-buys, Coop promoted over 2,400 in the same period of time. Since consumers buy more of a product when these are promoted by multi-buys, it is striking that such a large part of the unhealthy products are promoted in this way. It shows that promotions of Swedish supermarkets negatively impact consumers' eating patterns. Besides, it appears that, compared to UK supermarkets, Swedish supermarkets make more use of multi-buy promotions. While the UK government is taking the issue of unhealthy multi-buy promotions very seriously by developing regulations around it, there is still very little attention for this topic in Sweden. The outcomes of this study show sufficient evidence to stimulate a discussion on this.

Recommendations to supermarkets

Based on the findings of this report, we recommend supermarkets to consider the following actions:

- Formulate a policy on the promotion of unhealthy products.
- We give a few suggestions for concrete measures:
  - A limit to the number or frequency of unhealthy promotions;
  - A ban on multi-buy promotions for unhealthy products;
  - A ban on all promotions for unhealthy products.

In this annex we give a quick overview of our approach to ensuring data quality. Data collection happens mostly automatically. These processes are monitored and checked for inconsistencies. At several points manual sample-based checks were done.

Data Quality and Analysis

DATA COLLECTION

Products

On a weekly basis, all food products available in the online stores were collected with an automated system. Products were detected by systematically browsing the website through the categories. We did not include products that can only be found through a name search.

Most products re-occurred in our searches every week. However, some products were removed from, or added to, the assortment during the research period. Hence the total number of products registered over the whole period may be slightly higher than the number of products on offer at any given moment.

Product data

Product data was retrieved from the webpage as-is. This includes name, nutrition table, ingredient list, certifications, country of origin, etc. In case product data changed during the research period, the most recent version was used for analysis.

When data is missing, we may have used data from a different online store to complete it, but only if both products can be identified as identical.

Promotions

Each product that was indicated as a promotion ("1 + 1 free", "20 percent off", discounted price, etc.) was considered to be a promotion in that week. A promotion that ran for four weeks was thus counted as four different promotions for the same product.

Subsequently all promotions that require the purchase of multiple items (in order to benefit from a price reduction) were marked as multi-buy promotions. This includes promotions of the type:

- 2 for 1
- 1+1 free
- Any 3 for 50 kr

ANALYSIS

HFSS scoring

In order to classify a product as either HFSS or not, we applied the British Nutrient Profiling Model (NPM) (UK Health Department, 2011). In the majority of cases it was not possible to calculate an exact NPM-score based on data provided by the retailer because either:

- The retailer did not provide (all) nutritional information required for the calculation;
- The amount of fruit, nuts and vegetables is not given, or not given in a machine readable form (e.g. only indirectly derivable from the ingredient list).

We completed these data with an assumed range of values on category level. For instance, for cereal bars we assume that the amount of fruit, vegetables and nuts is between 0% and 100%, whereas for cookies this amount is assumed to be between 0% and 40%. Likewise, we made assumptions about nutritional values. We based these assumptions on data given for existing products in the category. A complete list of assumptions can be found on our website.

Based on these ranges, we were able to calculate a range of possible NPM-scores. In a majority of cases, this range in turn enables us to determine whether a product is categorised as HFSS or not, according to the legislation. If the highest value in the range of scores did not exceed the HFSS threshold value, we classified the product as non-HFSS. And vice versa, if the lowest value was not lower than the threshold value, we classified the product as HFSS.

Some single products, for example products for which no nutritional information was provided on the website, could not be classified as either HFSS or not and were therefore presented as *unknown*. For some product categories, none of the products (of all supermarkets) were classified. If none of the products within a certain product category were automatically provided a health score, they were left out of the health score analyses. These include product categories such as meal substitutes and shakes, but also coffee products (e.g., coffee beans, coffee pods and capsules, etc.) for which no nutritional information was provided on the reconstituted product. Also salt and spice mixes never got an automatic HFSS score and were thus left out of the analyses. Lastly, since the NPM does not apply to alcoholic beverages, alcoholic beverages and non-alcoholic replacement beverages were considered beyond the scope of this study.

COMPLETENESS AND CORRECTNESS

Completeness

We looked at all the products a supermarket sells online. Our starting point was products that can be found by browsing the website through the categories or list of products (depending on what the website offers). We did not include products that can only be found through a name search.

The number of products and promotions found each week was compared with other weeks, to detect deviations. Also any errors occurring during a website visit were monitored and investigated. Finally, for each online store, a manual sample-based check was done to see if all (food) products were included.

Correctness

For a correct comparison between supermarkets, both the product data and the processing need to be correct. We took the product data (nutrients, ingredients, name, etc.) from the website as-is; in some cases, we could use product data found in one online store to complete data from another online store. To make sure that we processed the product data correctly, we did a sample-based check for each online store to see if the data was taken over and recognized correctly.

As mentioned before, the general websites of the supermarkets were used to scrape the data on products and promotions, except for ICA. ICA's website requires the selection of a specific store. For data collection, the store ICA Kvantum Värtan was selected, which is a relatively large store with a wide range of products. Since ICA consists of different store profiles, including Maxi, Nära, Kvantum and Supermarket stores, the scope for ICA as a whole is limited in this study. The analyses of this study build on ICA Kvantum specifically, and can therefore differ from the analyses for Maxi, Nära and Supermarket stores. Besides, the selected store is located in the city of Stockholm, which might also have impacted the outcomes. The outcomes can be different for ICA (Kvantum) stores that are located in other regions of Sweden.

REFERENCES

GS1 UK, 2022. “GS1 UK | Understanding the HFSS Location Requirements: Are You in Scope?” GS1 UK. 2022. https://www.gs1uk.org/insights/news/understanding-the-HFSS-location-requirements.

Livsmedelsverket, 2015. “Swedish Dietary Guidelines - Risk and Benefit Management Report.” Livsmedelsverket, 79. https://www.livsmedelsverket.se/globalassets/publikationsdatabas/rapporter/2015/rapp-hanteringsrapport-engelska-omslag--inlaga--bilagor-eng-version.pdf.

Livsmedelsverket, 2022. “The Keyhole.” Livsmedelsverket. 2022. https://www.livsmedelsverket.se/en/food-and-content/labelling/nyckelhalet.

PHE, 2020. “An Analysis of the Role of Price Promotions on the Household Purchases of Food and Drinks High in Sugar, and Purchases of Food and Drinks for out of Home Consumption.” PHE. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/947412/Sugar_Reduction_analysis_of_price_promotions_on_the_household_purchases_of_food_and_drinks_high_in_sugar__4_.pdf.

SVDH, n.d. “Om Dagligvaruhandeln.” SVDH. Svensk Dagligvaruhandel. https://www.svenskdagligvaruhandel.se/wp-content/uploads/Om.Dagligvaruhandeln.pdf.

UK Health Department, 2011. “Nutrient Profiling Technical Guidance.” “Nutrient Profiling Technical Guidance.” January 2011. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216094/dh_123492.pdf.

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