Appendix B
TV advertising of food and drink, by Nutrient Profile Model score

This is an appendix to the briefing note: https://www.ifs.org.uk/uploads/BN238.pdf. The briefing note summarises the findings of a report produced for the Department of Health and Social Care. Full text of the report is below.

TV advertising of food and drink,
by Nutritional Profiling Model score

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1   Introduction

This report describes the timing of TV advertising for food and drink in the UK in 2015 by nutritional profile model (NPM) score of the brands advertised.

Data.   We use data from Nielsen on all adverts for food and drink products broadcast on television during 2015. The data include information on the brand advertised, the channel on which the advert was shown, what programmes ran either side of the advert and viewing figures provided by the Broadcasters' Audience Research Board (BARB). We also use data from Kantar Worldpanel for 2015. This contains details of the food and drink products (barcodes) that a representative sample of over 30,000 households purchased and brought into the home over the course of 2015.

Impacts.   In the main report we describe child 'impacts', which are a widely-used industry measure of viewing figures. In the Spreadsheet Appendix we provide equivalent description by number of adverts and by expenditure. The number of child impacts is equal to the number of pairs of eyes who view the advert, e.g. 1 person watching an advert 5 times is equivalent to 5 people watching an advert once, and is provided to the nearest thousand. Children are defined by BARB as aged 4-15.

Children's programming.   We identify children's programming using either the channel on which the advert was aired (e.g. all adverts shown on children's cable TV are classified as children's programming) or the genre of the programme provided by Nielsen. This is not exactly the same as the regulatory definition, see section 2.1 and Appendix B for details.

Sponsorship. Nielsen also collects data on TV 'sponsorship' (e.g. The Big Bang Theory is sponsored by Hungry House) for 20 channels. Impacts are not recorded for sponsorship slots. Sections 2 – 3 describe adverts only (not including sponsorship). In Section 4 we separately provide details on sponsorship, including a list of all brands that carry out sponsorship, the number of slots that they run and spending on these slots.

Nutritional profiling model. We match the brand recorded in the Nielsen data to brands indicated in the Kantar Worldpanel for 2015. Note that there is not always a one to one match, it is often the case that a brand in the Nielsen data encompasses many brands or products in the Kantar data, we describe below how we treat these brands.

The Kantar Worldpanel includes information on the nutritional composition of food and drink products purchased by the households in the sample. The Kantar Worldpanel data contain information on the energy (kj), sugar, saturated fat, salt, protein and fibre content at the individual product (barcode) level. Where necessary we supplement this information with information on nutritional content of products from other sources as detailed in Appendix C. We apply the Nutritional Profiling Model (NPM) to these data to calculate an NPM score for each brand advertised.

Currently, adverts for products with an NPM score above or equal to 4 for foods and 1 for drinks are not permitted during children's programming. In order to describe which adverts are for brands that are above or below this threshold we define three sets of adverts:

1. adverts for brands that contain products all of which have an NPM score below the threshold.

2. adverts for brands that contain products all of which have an NPM score equal to or above the threshold. We treat alcohol as having an NPM score that is above the NPM threshold, given that it is not allowed to be advertised during children's programming.

3. adverts for brands (or ranges) that contain some products with an NPM score that is below, and some product with an NPM score that is above or equal to the threshold. This category particularly applies to adverts for product ranges, such as Tesco's Product Range, which encompasses multiple products.

Outline. The rest of this document is structured as follows:

- Section 2 describes how child impacts vary over the day for brands with an NPM score that is above, below or contains products both above and below the threshold.

- Section 3 provides further details on the brands with the most child impacts.

- Section 4 describes sponsorship activity.

- Three appendices contains additional information.

  - Appendix A shows child impacts by NPM threshold and day of the week.

  - Appendix B describes how we define children's programming.

  - Appendix C describes how we calculate the NPM scores for the brands advertised.

- A spreadsheet appendix contains more details on the data used in the report, as well as the tables and figures by number of adverts and expenditure.

2 Child impacts by time of day and NPM threshold

Figure 1 shows total child impacts recorded in each hour of the day in 2015 (over all food and drink products, excluding sponsorship, summed over the entire year). A breakdown by day of the week is given in Appendix A. The figure shows the breakdown of impacts into those from adverts for products with NPM scores equal to or above the threshold (4 for food products and 1 for drinks), below the threshold, and adverts for brands or ranges that include products above and below the threshold.

Figure 1: *Child impacts by hour of day and NPM threshold*
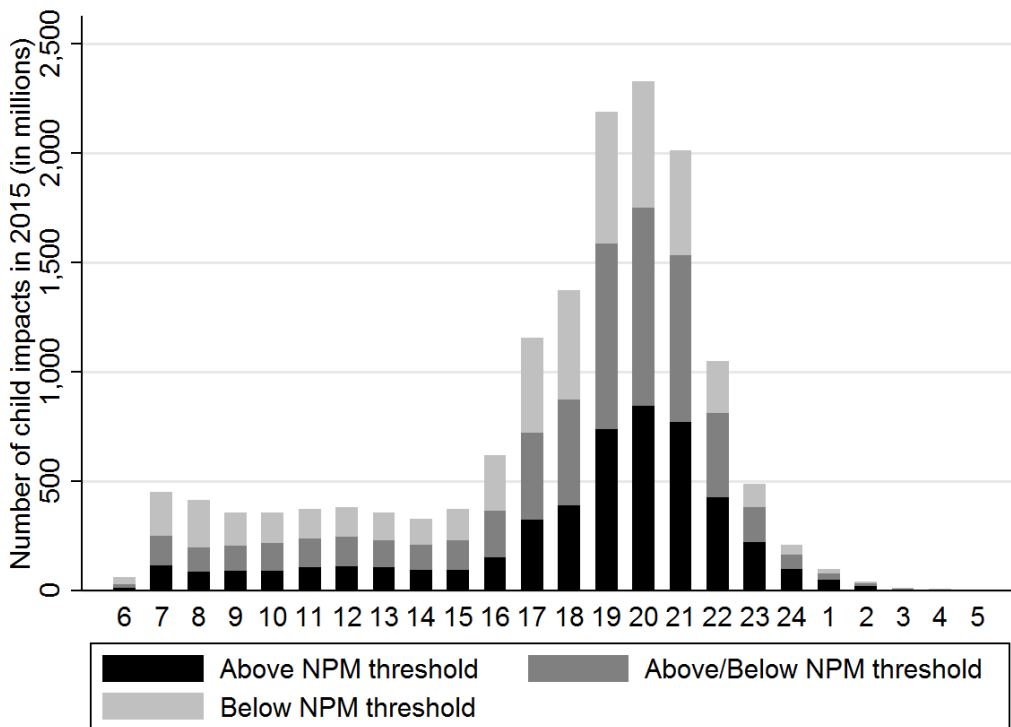
Notes: Each bar shows the total child impacts, summed over the course of 2015, for each hour of the day and for all food and drink products. "Above NPM threshold" is advertising for brands that contain products that have NPM scores all equal to or above the threshold. "Above/Below NPM threshold" is advertising for brands or ranges that contain some products above and some below the threshold. "Below NPM threshold" is advertising for brands that contain products that have NPM scores all below the threshold.

Table 1 summarises the number and share of child impacts by time of day and NPM. The numbers in the Total panel sum to the total number and to 100% of all child impacts over 2015. The numbers in the Pre watershed and Post watershed panels sum to the total number and to 100% of all child impacts over 2015. The numbers in the Between 19.00 and 21.00 panel are a subset of the Pre watershed panel, and those in the Children's programming panel are a subset of the Total.

- 32.6% of all child impacts for food and drink over 2015 are for products that have an NPM score equal to or above the threshold.

  - 68% (22.1/32.6) of child impacts for products with a score equal to or above the NPM threshold were shown before the 21.00 watershed, and 32% (10.5/32.6) were shown between the hours of 19.00 and 21.00.

- 30.2% of child impacts are for food and drink over 2015 are for products that have an NPM score below the threshold.

  - 80% (24.3/30.2) of the child impacts for products with a score below the threshold were shown before the 21.00 watershed, and 25% (7.6/30.2) were shown between the hours of 19.00 and 21.00.

- 37.2% of child impact are for brands or ranges that include products both above and below the threshold.

  - 74% (27.5/37.2) of the child impacts for brands or ranges with some products above and some below the threshold were shown before the 21.00 watershed, and 32% (11.9/37.2) were shown between the hours of 19.00 and 21.00. We describe this category in more detail in Section 3.3.

Table 1: *Child impacts by time slot and NPM threshold*

(1)	(2)	(3) No. child impacts (in millions)	(4) % of total child impacts
Time slot	NPM		
Total	Above NPM threshold	4,944	32.9
	Above/Below NPM threshold	5,411	36.0
	Below NPM threshold	4,665	31.1
	Total	15,020	100.0
Pre watershed	Above NPM threshold	3,352	22.3
	Above/Below NPM threshold	3,992	26.6
	Below NPM threshold	3,760	25.0
	Total	11,103	73.9
Between 19.00 and 21.00	Above NPM threshold	1,582	10.5
	Above/Below NPM threshold	1,754	11.7
	Below NPM threshold	1,177	7.8
	Total	4,513	30.0
Post watershed	Above NPM threshold	1,593	10.6
	Above/Below NPM threshold	1,420	9.5
	Below NPM threshold	904	6.0
	Total	3,917	26.1
Children's programming	Above NPM threshold	26	0.2
	Above/Below NPM threshold	514	3.4
	Below NPM threshold	1,384	9.2
	Total	1,924	12.8

Notes: "Above NPM threshold" is advertising for brands that contain products that have NPM scores all equal to or above the threshold. "Above/Below NPM threshold" is advertising for brands or ranges that contain some products above and some below the threshold. "Below NPM threshold" is advertising for brands that contain products that have NPM scores all below the threshold. Pre watershed is 05.30-21.00, post watershed is 21.00 - 05.30. Column (3) shows the number of child impacts (in millions). Column (4) shows the percentage of all child impacts across 2015. Details of how we identify children's programming are given in Appendix B.

2.1 Children's programming

Table 1 shows that 0.2% of child impacts are classified as being for advertising of brands that contain products that are all above or equal to the NPM threshold and that are during children's programming. In Table 2 we report these brands. The majority of impacts (over 90%) are for the brand Whitworths - Sunny Raisin. This product has a NPM score of 5 (see Appendix D for details). The remaining brands account for a very small fraction of total child impacts.

We do not have access to the classification of programmes that is used by the Advertising Standards Authority. Our classification of children's programming is based on whether advertising was aired on a channel that is classified by AC Nielsen as being for children or whether the programme that preceded the advert was classified by AC Nielsen as belonging to the genre children. This may not align exactly with the ASA definition.

This is one possible reason why a small number of impacts for foods and drinks with NPM scores above the threshold (as well as alcohol) appear during what we identify as children's programming. In Appendix B we provide further details of how we identify children's programming.

Table 2: *Child impacts during children's programming for brands that are above or equal to the NPM threshold*

(1)	(2)	(3)	(4): Within brand, for top 5 channel-programmes		
Brand	Child impacts (thousands)	NPM	Channel	programmes	Child impacts (thousands)
Whitworths - Sunny Raisin	24,951	5	C5	Peppa Pig	2,213
			C5	Ben And Holly's Little Kingdom	1,279
			Cartoon Network	Amazing World Of Gumball, The	1,143
			Cartoon Network	Ninjago: Masters Of Spinjitzu	919
			Cartoon Network	Regular Show	854
Robinsons - Orange Fruit Squash	375	2	C5	Teenage Mutant Ninja Turtles	283
			Itv	Mr Bean	79
			Itv	Film: Horrid Henry - The Movie (2011)	10
			Challenge Tv	Finders Keepers	4
Colmans - Shepherds Pie Recipe Mix	228	12	Cartoon Network	Teen Titans Go!	45
			Cartoon Network	Ninjago: Masters Of Spinjitzu	34
			Boomerang	What's New Scooby-Doo?	28
			Boomerang	Scooby Doo	24
			Boomerang	Mr Bean: The Animated Series	23
Skittles - Sweets	128	16	C5	Film: The Land Before Time (1988)	76
			Itv	Mr Bean	28
			Dm Global	Tom & Jerry	9
			Challenge Tv	Finders Keepers	8
			Challenge	Finders Keepers	6
Coca Cola - Orig Coke	112	2	C5	Teenage Mutant Ninja Turtles	111
Douwe Egberts - Pure Gold Instant	97	2	C5	Teenage Mutant Ninja Turtles	77
			W	Madeline	11
			Itv	Mr Bean	9
Flora - Light Margarine	67	14	C5	Spongebob Squarepants	66
Lidl - Deluxe Chocolate Cheesecake	49	12	C5	Teenage Mutant Ninja Turtles	49
Arla Foods - Lurpak Spreadable	38	21	Itv	Mr Bean	34
			The Vault	Lizzie Mcguire	4
Robinsons - Orange & Raspberry	34	1	C5	Spongebob Squarepants	32
			The Vault	Sabrina The Teenage Witch	2
Bulmers - Zesty Blood Orange Cider	34	99	Itv	Mr Bean	34
Fosters - Radler	30	99	W	Gangsta Granny	30
Tangerine - Butterkist Popcorn Rge	29	15	C5	Spongebob Squarepants	29
Robinsons - Squashd	25	10	Itv	Mr Bean	25
Muller - Bliss Corner	25	6	C5	Spongebob Squarepants	25
Lidl - French Wine	24	99	C5	Spongebob Squarepants	24
Gordons - Gin	19	99	W	Gangsta Granny	19
Mars - Mars Bar	18	22	Challenge Tv	Finders Keepers	18
Knorr - Mixed Herbs Flavour Pots	16	11	W	Gangsta Granny	16
Kelloggs - Krave Chocolate Hazelnut	14	15	The Vault	Sabrina The Teenage Witch	14
Strongbow - Cider	14	99	The Vault	Sabrina The Teenage Witch	14
Smirnoff - Vodka	12	99	The Vault	Sabrina The Teenage Witch	12
Coca Cola - Life	12	1	The Vault	Sabrina The Teenage Witch	12
Walkers - Doritos Roulette	11	8	The Vault	Sabrina The Teenage Witch	11
Kelloggs - Spec K Cereal	10	7	Challenge Tv	Finders Keepers	10
Ben & Jerrys - Greek Style Frozen Yog	9	8	Dm Global	Tom & Jerry	9
Snickers - Bar	9	24	The Vault	Sabrina The Teenage Witch	6
			Eden	Deadly 60	3
Mondelez - Philadelphia Deliciously Wh	9	17	The Vault	Sabrina The Teenage Witch	9
Walls - Cornetto Peanut Butter Love	9	20	The Vault	Sabrina The Teenage Witch	9
Perfetti Van Melle - Fruit Tella	8	20	C5	Toot The Tiny Tugboat	8
Oxo - Stock Pots	7	11	The Vault	Sabrina The Teenage Witch	7
Ferrero - Colln	7	22	The Vault	Sabrina The Teenage Witch	7
Kellys - Clotted Cream Ice Cream	6	15	W	Gangsta Granny	6
Iceland - Frozen Croissants	5	1	The Vault	Sabrina The Teenage Witch	5
Twix - Bar	5	25	The Vault	Sabrina The Teenage Witch	5
Cadbury - Chocolate Bar Rge	5	25	The Vault	Sabrina The Teenage Witch	5
Lidl - Parma Ham	4	13	The Vault	Sabrina The Teenage Witch	4
Coors - Carling Lager	4	99	The Vault	Sabrina The Teenage Witch	4
Lidl - Abrachan Scotch Malt Whisky	4	99	The Vault	Sabrina The Teenage Witch	4
Iceland - Luxury Choc & Orange Choux	3	16	The Vault	Sabrina The Teenage Witch	3
Kelloggs - Spec K Red Berries	3	7	Eden	Deadly 60	3
Carlsberg - Lager	3	99	More 4	Film: Jungle Book	3
Cadbury - Creme Egg	1	24	Challenge	Finders Keepers	1

Notes: Column (2) shows the number of child impacts (in thousands) that occur during children's programming for each brand with an NPM score equal to or above the threshold. Column (3) shows the transaction weighted mean NPM score for products belonging to the brand featured in each of the advert. Column (4), for each brand, shows the top 5 channel-programmes in terms of child impacts and what their child impacts are. If a brand is advertised on fewer than 5 channel-programmes during children's programming we show all of them. Details of NPM calculations for Whitworths - Sunny Raisin are given in D. Note that we assign alcohol an NPM score of 99.

8

3 Child impacts by brand

In this section we describe the largest brands (in terms of child impacts) based on whether they are for products with NPM scores that are above or below the threshold.

3.1 Adverts for brands with NPM scores above or equal to the threshold

Table 3 shows the number of child impacts for each of the top 40 brands that are above or equal to the NPM threshold (brands are ranked in order of the number of child impacts).

The brand with the most child impacts, amongst those with an NPM score above or equal to the threshold, is Galaxy, with 111 million child impacts over 2015, accounting for 0.74% of all child impacts for food and drinks; 72.1% of the child impacts for Galaxy were pre-watershed.

Table 3: *Child impacts for brands with products above or equal to the NPM threshold*

(1)	(2)	(3)	(4)
			Within brand:
	No. child impacts	% of total	% impacts
Brand	(in millions)	child impacts	pre watershed
Galaxy - Chocolate	111	0.74	72.1
Snickers - Bar	92	0.61	71.1
Muller - Pud Corner	77	0.51	67.0
Haribo - Starmix	76	0.50	72.0
M&m - Confectionery	61	0.40	72.7
Ferrero - Kinder Chocolate	58	0.39	67.6
Twix - Bar	57	0.38	73.5
Walkers - Doritos Tangy Cheese	53	0.35	64.9
Muller - Bliss Corner	52	0.35	68.8
Kitkat - Chocolate Bar	51	0.34	66.2
Skittles - Sweets	50	0.34	69.1
Maltesers - Sweets	48	0.32	74.1
Lindt - Lindor Chocolate	47	0.31	70.3
Mars - Mars Bar	42	0.28	75.9
Jacobs - Cracker Crisps	41	0.28	65.9
Kelloggs - Krave Chocolate Hazelnut	41	0.27	66.7
Pringles - Crisps	41	0.27	66.1
Bendicks - Toffifee	40	0.27	72.7
Coca Cola - Orig Coke	40	0.27	56.8
Heinz - Tomato Ketchup	40	0.26	70.1
Ferrero - Kinder Surprise	39	0.26	67.2
Bertolli - Butter	38	0.25	74.5
Oxo - Herbs & More	37	0.25	69.8
Carlsberg - Lager	37	0.25	58.6
Cadbury - Dairy Milk	34	0.23	67.6
Nabisco - Oreo Cookies	34	0.23	67.9
Douwe Egberts - Pure Gold Instant	34	0.22	74.2
Arla Foods - Lurpak Spreadable	33	0.22	70.0
Flora - Pro Activ Light Spread	32	0.21	67.6
Knorr - Stock Pot Beef	32	0.21	69.1
Kerry Foods - Cheestrings	32	0.21	71.4
Budweiser Beer - Lager	31	0.21	46.2
Pringles - Tortilla Chips	31	0.21	68.3
Lucozade - Energy Drink	31	0.20	60.0
Mondelez - Philadelphia Deliciously Whipped	30	0.20	74.2
Kelloggs - Crunchy Nut Oat Granola	30	0.20	69.1
Nestle - Cheerios Cereal	30	0.20	69.4
Ferrero - Nutella	30	0.20	68.6
Coors - Carling Lager	29	0.20	45.1
Richmond - Sausages	29	0.19	68.9
Total	4,944	32.92	67.8

Notes: Column (2) shows the number of impacts for each brand, column (3) shows the % of all child impacts over 2015 that are accounted for by each brand, and column (4) shows the % of child impacts for each brand that occur before the watershed (i.e. between 5.30am and 9pm). We list all brands along with their share of child impacts and NPM score in the Spreadsheet Appendix.

3.2 Adverts for brands with NPM scores below the threshold

Table 4 shows the number of child impacts for each of the top 40 brands that are below the NPM threshold (brands are ranked in order of the number of child impacts).

The brand with the most child impacts that has an NPM score below the threshold is Kelloggs - Coco Pops Mini Crocs, with 259 million child impacts over 2015, representing 1.72% of all child impacts; 94.3% of these were shown before the watershed.

Table 4: *Child impacts by brand for products below the NPM threshold*

(1) Brand	(2) No. child impacts (in millions)	(3) % of total child impacts	(4) Within brand: % impacts pre watershed
Kelloggs - Coco Pops Mini Crocs	259	1.72	94.3
Wrigley - Extra Peppermint Sugarfre	133	0.88	78.3
Pg Tips - Tea Rge	124	0.82	81.4
Danone - Activia Fibre Yogurt Rge	117	0.78	69.2
Weetabix - Cereal	110	0.73	87.7
Kerry Foods - Yollies	105	0.70	93.4
Danone - Actimel For Kids	103	0.69	96.8
Cravendale - Milk	94	0.63	80.7
Munch Bunch - Squashums	91	0.61	96.2
Milupa - Aptamil Follow On	89	0.59	74.5
Yoplait - Petits Filous Frubes	89	0.59	95.1
Bear Nibbles - Pure Fruit Rolls	82	0.55	95.4
Bear - Alpha Bites	81	0.54	95.6
Muller - Light Goodies	74	0.49	77.4
Cow & Gate - Comp Care Follow On	73	0.49	77.3
Danone - Actimel	69	0.46	90.2
Sma - Follow On Milk	68	0.46	81.6
Twinings - English Breakfast Tea	68	0.45	83.2
Bear Nibbles - Fruit Paws	65	0.43	92.4
Coca Cola - Diet Coke	62	0.42	70.8
Danone - Actimel Plus	60	0.40	63.6
Innocent - Drinks	59	0.39	76.6
Dolmio - Bolognese Sauce	59	0.39	76.9
Taylors - Yorkshire Tea	57	0.38	76.5
Muller - Light Fruitopolis Yogurt	57	0.38	77.0
Munch Bunch - Yoghurts	57	0.38	88.0
Wrigley - Airwaves Menthol & Eucaly	56	0.37	75.1
Aldi - Fruit & Veg	51	0.34	81.5
Coca Cola - Zero Sugar	49	0.32	70.0
Yoplait - Petits Filous	48	0.32	78.1
Uncle Bens - Express Rice	45	0.30	81.9
Tetley - Tea	44	0.29	76.6
Quorn - Mince	44	0.29	78.5
Glaceau - Smartwater	41	0.28	76.9
Aldi - Vegetables	40	0.26	87.8
Uncle Bens - Rice Time Rge	39	0.26	76.3
Fage - Total Greek Yoghurt	39	0.26	78.5
Nescafe - Gold Blend Instant Coffee	39	0.26	72.7
Heinz - No Added Sugar Baked Beans	39	0.26	66.8
Arla Foods - Skyr Yogurt	37	0.25	77.5
Total	4,665	31.06	80.6

Notes: Column (2) shows the number of impacts for each brand, column (3) shows the % of all child impacts over 2015 that are accounted for by each brand, and column (4) shows the % of child impacts for each brand that occur before the watershed (i.e. between 5.30am and 9pm). We list all brands along with their share of child impacts and NPM score in the Spreadsheet Appendix.

3.3 Adverts for brands or ranges that include products that are above and products that are below the NPM threshold

Table 1 shows that 37.2% of child impacts over 2015 were for brands or ranges that encompass multiple products, some of which are above or equal to and some below the NPM threshold. There are three broad categories of advertising that fall into this group, summarised in Table 5.

Table 5: *Categories of advertising for brands or ranges that encompass multiple products, some of which are above and some below the NPM threshold*

Category	% of total child impacts
Brands and product ranges	12.7
Restaurants and bars	11.2
Supermarket ranges	13.3
Total	37.2

Notes: "Brands and product ranges" refers to advertising of brands and product ranges that contain multiple products, some of which with NPM scores above or equal to, some with NPM scores below, the threshold. "Restaurants and bars" refers to advertising or restaurants and bars. "Supermarket ranges" refers to advertising of supermarket ranges. Numbers show % of total child impacts for food and drink across 2015 accounted for by each group.

The first category is advertising for brands and product ranges. Table 6 shows the number of child impacts for each of the top 80 brands in this category (ranked by the number of child impacts). For example, an advert for "Kelloggs - Coco Pops Super Smooth Porridge" could be advertising either the Coco Pops Smooth Porridge Sachets (which has an NPM score of -1) or the Coco Pops Smooth Porridge Pots (which has an NPM score of 8). This difference is driven by the pots being higher in sugar (27g per 100g as opposed to 20g per 100g) and sodium (100mg per 100g as opposed to 30mg per 100g) and also lower in fibre (3g per 100g as opposed to 8.5g per 100g) and protein (2.9g per 100g as opposed to 9.4g per 100g).

For each product range we match all of the products observed purchased in the Kantar data that are included in that brand. We use that data to calculate the transaction weighted mean NPM score of all of the products that are in the brand or product range (column (5)) and the % of transactions that are for products that have an NPM that is above the threshold (column (6)). For example, Coco Pops Smooth Porridge Sachets constitutes 95% of transactions and has an NPM of -1; Coco Pops Smooth Porridge Sachets constitutes 5% of transactions and has an NPM of 8. The transaction weighted mean NPM is therefore -0.55= -1*0.95 + 8*0.05 and 5% of transactions are above the NPM threshold.

The second category of advertising is for restaurants and bars, shown in Table 7. These adverts are for outlets that sell a large range of food and drink products. We do not have

detailed information on the nutrients for the products sold in these restaurants and bars. In Table 10 we show the distribution of child impacts under the alternative assumptions that these are above or below the NPM threshold.

The third category is advertising of entire product ranges by the supermarkets, shown in Table 8. Advertising of this type spans a very large range of products, we do not attempt to calculate an NPM score for this category.

Table 6: *Child impacts for brands and product ranges that include products above and below the NPM threshold*

(1)	(2)	(3)	(4)
		NPM	
Brand	% of total child impacts	Transaction weighted mean	% above NPM threshold
Kelloggs - Coco Pops Super Smooth Porridge	0.62	-0.55	5.0
Walkers - Crisps	0.53	10.26	94.3
Coca Cola - Coke Rge	0.40	0.89	46.0
Mccain - Prod Rge	0.34	-0.49	1.3
Warburtons - Bread Rge	0.33	0.47	11.2
Kelloggs - Cereals	0.32	8.61	79.5
Muller - Rice Remix Greek Inspired	0.32	8.06	63.2
Quorn - Foods	0.31	-2.01	13.5
Iceland - Frozen Fish Range	0.28	-1.50	0.9
Nescafe - Azera	0.27	5.68	37.6
Ryvita - Crispbread Range	0.26	-2.44	2.1
Aldi - Meat Rge	0.24	7.61	65.6
Ribena - Drinks Range	0.22	1.40	72.2
Kelloggs - Spec K Cereal Rge	0.21	5.79	83.6
Iceland - Frozen Meat Rge	0.20	4.22	38.8
Mondelez - Philadelphia Cheese	0.20	12.77	82.2
Lavazza - Coffee Rge	0.20	-4.36	9.1
Weetabix - Prod Rge	0.20	-2.07	0.7
Dr Oetker - Ristorante Pizza	0.18	6.95	68.8
Flora - Pro Activ Rge	0.18	14.12	89.6
Nestle - Cereals	0.17	3.23	55.3
Homepride - Sauces Rge	0.17	3.40	37.0
Weetabix - Alpen Cereal	0.16	-0.18	10.2
Chicago Town - Pizza	0.16	7.79	56.5
Nescafe - Original	0.15	-0.48	63.6
Red Bull - Drink	0.15	1.32	65.8
Lactofree - Prod Rge	0.14	2.70	21.0
Quaker Oats - Granola	0.14	3.30	49.8
Sainsburys - By Sains Frozen Food	0.14	-0.53	3.8
Birds Eye - Prod Rge	0.13	3.23	22.0
Capri Sun - Drinks Rge	0.13	1.74	90.0
Kelloggs - Spec K Prod Rge	0.13	8.79	92.2
Jacobs - Prod Rge	0.13	16.67	88.7
Vimto - Soft Drinks	0.13	0.62	45.8
Graze - Food Boxes	0.12	12.24	83.3
Aldi - Brit Meat & Poultry	0.12	7.69	66.5
Birds Eye - Chicken Inspirations	0.11	3.44	32.6
Muller - Prod Rge	0.11	2.18	45.0
Kingsmill - White Sandwich Thins	0.10	7.49	77.2
Birds Eye - Stir Your Senses	0.10	1.61	11.7
Volvic - Touch Of Fruit Water	0.10	0.57	57.1
Dr Oetker - Home Cake Baking Rge	0.10	22.64	97.8
Goodfellas - Pizza Rge	0.10	7.49	66.0
Blue Dragon - Oriental Sauces	0.10	13.40	100.0
Bisto - Gravy Rge	0.10	24.43	99.1
Fruit Bowl - Fruit Snacks Rge	0.09	11.46	99.3
Youngs - Chip Shop Fish Fillet	0.09	4.62	39.1
Arla Foods - Prod Rge	0.08	20.12	96.4
Quaker Oats - Oat So Simple	0.08	-2.39	2.5
Schwartz - Herbs & Spices	0.08	1.38	7.7
Other	2.54	5.16	52.5

Notes: Column (2) shows the % of total child impacts for food and drink across 2015. Column (3) shows the transaction weighted mean NPM score. Column (4) shows the % of transactions for that brand are for products with an NPM that is above or equal to the threshold.

15

Table 7: *Child impacts for restaurants and bars*

(1) Brand	(2) % of total child impacts
Mcdonalds - Restr Chain	5.85
Kfc Kentucky Fried Chicken - Restr	1.56
Subway - Restr Chain	0.86
Hungry House - Website	0.84
Burger King - Restr Chain	0.57
Dominos Pizza - Restr Chain	0.50
Just Eat - Food Delivery	0.38
Pizza Hut - Delivery Ser	0.26
Papa Johns - Pizza Restr Chain	0.25
Yo Sushi - Restr Chain	0.13
Greene King - Pub Chain	0.02
Pizza Hut - Restr Chain	0.01
Papa Johns - Pizzas	0.01
Cwmcerrig Grill & Farm Shop - Rge	0.00
Blue Lagoon - Fish & Chips	0.00
East End Foods - Food Rge	0.00
26 West Bar & Grill - Restr	0.00
Hard Rock Cafe - Cafe	0.00
Pepes Peri Peri - Restr	0.00
Stables Groomsport - Restr	0.00
Grace Neills Pub - Donaghadee	0.00
Tufted Duck St Combs - Ser Rge	0.00
Bpool Fc - Events	0.00

Notes: Numbers show % of total child impacts for food and drink across 2015.

Table 8: *Child impacts for supermarket ranges*

(1) Brand	(2) % of total child impacts
Aldi - Food & Drink Rge	1.02
Asda - Prod Rge	0.98
Aldi - Prod Rge	0.75
Iceland - Frozen Food Rge	0.74
Asda - Food Rge	0.62
Tesco - Prod Rge	0.57
Sainsburys - Food Rge	0.54
Coop - Food Rge	0.51
Lidl - Prod Rge	0.51
Lidl - Food & Drink Rge	0.42
M&s - Food Rge	0.41
Sainsburys - Brand Building	0.37
Morrisons - Food & Drink Rge	0.36
M&s - Food & Drink Rge	0.36
Morrisons - Prod Rge	0.31
Coop - Food & Drink Rge	0.30
Tesco - Finest Chilled Party Food	0.27
Tesco - Brand Building	0.27
Sainsburys - Prod Rge	0.25
Tesco - Gluten Free Food Rge	0.21
Hello Fresh - Ingredients Boxes	0.20
Aldi - Spec Sel Food Rge	0.20
Tesco - Food Rge	0.19
Aldi - Brand Building	0.19
Morrisons - Food Rge	0.19
Waitrose - Brand Building	0.19
Farmfoods - Frozen Food Range	0.18
Waitrose - Christmas Food Rge	0.18
Wiltshire Farm Foods - Frozen Ready Meal Rge	0.17
Tesco - Food & Drink Rge	0.15
Tesco - Flame Academy	0.13
Coop - Prod Rge	0.12
Asda - Food & Drink Rge	0.10
Sainsburys - Food & Drink Rge	0.09
M&s - Balanced For You Rge	0.08
Asda - Extra Spec Food & Drink	0.07
Lidl - Eridanous Rge	0.07
Sainsburys - Meat & Fish	0.07
Sainsburys - Frozen Food Rge	0.06
Lidl - Sol & Mar Rge	0.06
Qual Standard - English Lamb	0.05
Aldi - Food Rge	0.05
Spar - Food & Drink Rge	0.04
Lidl - Alpengut Food Rge	0.04
Sainsburys - Red Nose Prod Rge	0.04
Lovepork - Pork	0.03
Spar - Food Rge	0.03
Sainsburys - Taste Diff Party Food	0.03
Lidl - Italian Food & Drink Rge	0.03
Spar - Prod Rge	0.03

Notes: Numbers show % of total child impacts for food and drink across 2015

Table 10 shows the % of total child impacts for food and drink over 2015 for adverts in each timeslot and for above/below the NPM threshold under four alternative assumptions about both the allocation of advertising for brands and product ranges that include products above and below the NPM threshold (Table 6), and the allocation of advertising for restaurants and bars (Table 7).

Table 9 summarises these assumptions. Under assumptions 1 and 2 we assume that all products sold in bars and restaurants are above the threshold, and in assumptions 3 and 4 we assume that they are below the threshold. Under assumptions 1 and 3 we allocate all impacts for the brands and product ranges on the basis of the transaction weighted mean NPM for the range. For example, "Coca Cola - Coke Range" has a transaction weight mean NPM score of 0.89, which means all impacts for "Coca Cola - Coke Range" would be classed as below the threshold. Under assumptions 2 and 4 we allocate impacts based on the share of transactions that are above the threshold. For example, "Coca Cola - Coke Range" has 46% of transactions above the threshold, which means that 46% of impacts for "Coca Cola - Coke Range" would be classed as above the threshold under this assumption.

Table 9: *Alternative assumptions*

Brands and product ranges that are above/below	Bars and restaurnts	
	Above threshold	Below threshold
Impacts allocated depending on share of transactions above/below threshold	assumption 1	assumption 3
All impacts above/below threshold based on transaction weighted mean NPM	assumption 2	assumption 4

In Column (3) of Table 10 we repeat the information from Column (4) in Table 1. In this case all advertising for brands and product ranges that contain some products above and some below the NPM threshold and all restaurant and bar advertising is classified in the category "Above/Below NPM thresholds". Columns (4)-(7) reproduce the numbers, but recategorising this advertising according the assumptions laid out in Table 9. Under each of these assumptions there remains 13.3% of impacts that are in the "Above/Below NPM thresholds" – these are for the supermarket ranges.

Under assumption 1, 49.5% of child impacts are for products with an NPM score above or equal to the threshold. Of these, 70% (34.6/49.5) are shown on programs before the 21.00 watershed. Under assumption 4, 39.2% of child impacts are for products with an NPM score above or equal to the threshold. Of these, 68% (26.7/39.2) are shown on programs before the 21.00 watershed.

Table 10: *Child impacts by time slot under varying assumptions*

(1)	(2)	(3)	(4)	(5)	(6)	(7)
				% of total child impacts		
Time slot	NPM	Repeat from Table 1	Assumption 1	Assumption 2	Assumption 3	Assumption 4
Total	Above NPM threshold	32.9	49.5	50.5	38.3	39.3
	Above/Below NPM threshold	36.0	13.3	13.3	13.3	13.3
	Below NPM threshold	31.1	37.2	36.2	48.5	47.5
	Total	100.0	100.0	100.0	100.0	100.0
Pre watershed	Above NPM threshold	22.3	34.6	35.3	26.0	26.7
	Above/Below NPM threshold	26.6	9.6	9.6	9.6	9.6
	Below NPM threshold	25.0	29.7	29.0	38.3	37.6
	Total	73.9	73.9	73.9	73.9	73.9
Between 19.00 and 21.00	Above NPM threshold	10.5	15.6	16.0	12.3	12.8
	Above/Below NPM threshold	11.7	4.7	4.7	4.7	4.7
	Below NPM threshold	7.8	9.8	9.4	13.0	12.6
	Total	30.0	30.0	30.0	30.0	30.0
Post watershed	Above NPM threshold	10.6	14.9	15.2	12.2	12.6
	Above/Below NPM threshold	9.5	3.7	3.7	3.7	3.7
	Below NPM threshold	6.0	7.5	7.2	10.2	9.8
	Total	26.1	26.1	26.1	26.1	26.1
Children's programming	Above NPM threshold	0.2	2.8	2.7	0.2	0.2
	Above/Below NPM threshold	3.4	0.2	0.2	0.2	0.2
	Below NPM threshold	9.2	9.9	9.9	12.4	12.5
	Total	12.8	12.8	12.8	12.8	12.8

Notes: "Above NPM threshold" is advertising for brands that contain products that have NPM scores all equal to or above the threshold under the given assumption. "Above/Below NPM threshold" is advertising for brands that contain some products above and some below the threshold under the given assumption. "Below NPM threshold" is advertising for brands that contain products that have NPM scores all below the threshold under the given assumption. The assumptions are described in Table 9. Pre watershed is 05.30-21.00, post watershed is 21.00 - 05.30. "% total child impacts" refers to % of total child impacts for food and drink over 2015. Details of how we identify children's programming are given in Appendix B.

19

4 Sponsorship

AC Nielsen collects information on TV sponsorship for 20 channels. Impact data is not collected for sponsorship. Table 11 lists the brands that run sponsorship slots, the TV programme that they sponsor, the number of sponsorship slots and total spending on sponsorship. McCain, Aunt Bessies, Yakult and Kelloggs ran the most sponsorship slots during 2015.

Figure 2 shows the number of sponsorship slots in each hour of the day (summed over all of 2015), broken down by whether the product(s) has an NPM score above or equal to the threshold, below the threshold, or whether the set of products sponsored contain some above or equal to the threshold and some below it. Table 12 summarises this information. 32.7% of sponsorship slots are for products with an NPM above or equal to the threshold; of these, 35% (11.3/32.7) are shown before the 21.00 watershed.

There are 554 slots for which the sponsorship is for products with an NPM score above or equal to the threshold and which occurs on children's television, 98% of which are reported in the Nielsen data as being for "Rice Krispies", with the remaining 2% split between Rowntrees and Grant Signatures.

The Nielsen data records the sponsorship as being for Rice Krispies. Rice Krispies themselves are above the NPM threshold and that is the information that we use in the analysis below. However, Rice Krispies Multigrains have NPM scores below the threshold. We did a Google search for the sponsorship video and the top hit is a video reporting the Multigrain product (see https://vimeo.com/122734076). This could indicate a problem with the precision with which some sponsorship brands are recorded in the Nielsen data.

Table 11: *Sponsorship*

(1) Brand	(2) NPM threshold	(3) Sponsored TV programme	(4) No. slots	(5) Expenditure (000's £)
Mccain	Above/Below	Emmerdale	6,326	7,145
Aunt Bessies	Above/Below	Chase	2,942	2,222
		Im A Celebrity	1,391	2,043
		Total	4,333	4,265
Yakult	Below	Breakfast Time On C4	3,477	153
Kelloggs	Above/Below	Breakfast On Citv	3,342	28
Maoam	Above	Big Bang Theory	3,006	1,046
Danone Actimel	Below	Adventure Mornings On Nickelodeon	1,495	56
		Mornings On Pop	884	56
		Total	2,379	112
Rowntrees	Above	9pm Film	2,274	732
Dominos Pizza	Above/Below	Hollyoaks	2,000	1,040
Kelloggs All Bran	Below	Deal Or No Deal	1,348	94
		Fifteen To One	613	64
		Total	1,961	158
Lucozade Energy	Above	Big Brother	1,186	175
		Celebrity Big Brother	551	125
		Total	1,737	300
Tetley	Below	Movie Time Together	1,707	229
Walls Magnum Mini	Above	9pm Film	1,242	398
Sainsburys	Above/Below	Itv Showcase Drama	971	1,153
Frenchs Hot Dogs	Above	Discovery	917	92
Fosters	Above	Original Comedy On 4	642	321
Colmans	Above/Below	Neighbours	607	99
Carling	Above	Characters On Dave	588	176
Jucee	Below	Nickelodeon	587	7
Rice Krispies	Above	Breakfast On Citv	576	7
Fosters Helluva Tour	Above	Comedy On 4	557	298
New Covent Gdn Soup	Above/Below	Itv Lon Weekd	547	253
Cheerios	Above	Cube	364	233
		Saturday Night Story	75	80
		Total	439	313
St Helier	Above	Hells Kitchen On Itv2	248	196
		Mobo Awards	51	16
		Total	299	211
Casillero Del Diablo Wine	Above	Legendary Films On Sky 1	290	94
Pick Up	Above	Comedy On Sky 1	286	106
Grants Signature	Above	European Qualifiers On Sky Sports	255	84
Napolina	Above/Below	Ginos Italian Escape	250	275
Kelloggs Squares	Above	Celebrity Juice	196	218
Bernard Matthews	Above/Below	Simpsons On 4	193	62
Magners	Above	Bbq Champ	192	104
Ginsters	Above/Below	Football League Tonight	93	15
		Capital One Cup Tonight	21	2
		Total	114	18
Crabbies	Above	Tfi Friday	102	42
Glens Of Antrim	Below	Lesser Spotted Ul	98	25
Cadbury	Above	Christmas On Itv	64	52
Kelloggs Krave	Above	10000 Bc	64	11
Smint	Above/Below	Stv	49	20
Irwins Bakery	Above/Below	Rare Breed	45	25
		Paul & Nicks Big Fo	2	1
		Total	47	26
Mornflake	Above/Below	Food With A View	38	4
Moy Park	Above/Below	Paul & Nicks Big American Food Trip	28	10
Buchanans Confectionery	Above/Below	Pauk & Nicks Big American Food Trip	28	17
Buchanans Conf	Above	Moviejuice	26	17
Diet Coke	Below	Pulse	26	3
Spar	Above/Below	Utv At The Show	24	2
Walkers	Above/Below	Uefa Champions League	15	2
Pepsi Max	Below	Uefa Super Cup	15	2
Iceland	Above/Below	Im A Celebrity	1	0
Uncle Bens	Above/Below	Transform Whats On She	1	0
Heineken	Above	Champions League	347	219
Heineken/gazprom	Above	Champions League	90	52
Heineken/ps4	Above	Champions League	58	25
Heineken/mastercard	Above	Champions Lge	34	37
Heineken/walkers	Above	Uefa Champions League	24	5
		Total Heineken	553	338

Notes: Column (1) lists brands, and column (3) lists the TV that they sponsor (either programme, channel, or timeslot). Column (4) lists the total number of sponsorship slots for each brand and column (5) lists the total spending on sponsorship for each brand in 2015. All Heineken sponsorship is listed separately at the bottom of the table as it splits the majority of its advertising with other products (including Walkers who also run their own sponsorship).

21

Figure 2 shows the number of sponsorship slots that occur in each hour of the day summed across 2015, and the breakdown of into those for products with NPM scores equal to or above the threshold, below the threshold, and those for that include products above and below the threshold.

Table 12 summarises this information. 15.7% of sponsorship impacts occur during children's programming; these are predominantly shown before 11am.

Figure 2: *Sponsorship slots by hour of day*
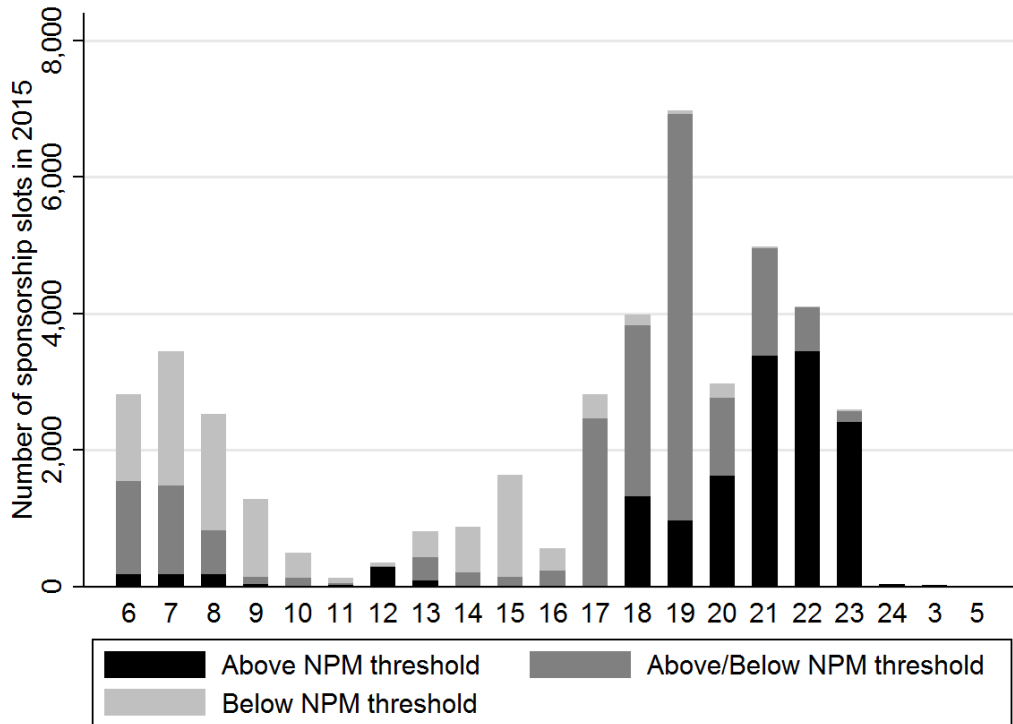
Notes: Each bar shows the total number of sponsorship slots, summed over the course of 2015, for each hour of the day and for all food and drink products. "Above NPM threshold" is sponsorship for brands that contain products that have NPM scores all equal to or above the threshold. "Above/Below NPM threshold" is sponsorship for brands that contain some products above and some below the threshold. "Below NPM threshold" is sponsorship for brands that contain products that have NPM scores all below the threshold.

Table 12: *Number of sponsorship slots by time slot, by NPM threshold*

(1) Time slot	(2) NPM	(3) Number of sponsorship slots	(4) % of total sponsorship slots
Total	Above NPM threshold	14,230	32.7
	Above/Below NPM threshold	18,914	43.5
	Below NPM threshold	10,325	23.8
	Total	43,469	100.0
Pre watershed	Above NPM threshold	4,921	11.3
	Above/Below NPM threshold	16,551	38.1
	Below NPM threshold	10,256	23.6
	Total	31,728	73.0
Between 19.00 and 21.00	Above NPM threshold	2,595	6.0
	Above/Below NPM threshold	7,092	16.3
	Below NPM threshold	266	0.6
	Total	9,953	22.9
Post watershed	Above NPM threshold	9,309	21.4
	Above/Below NPM threshold	2,363	5.4
	Below NPM threshold	69	0.2
	Total	11,741	27.0
Children's programming	Above NPM threshold	550	1.3
	Above/Below NPM threshold	3,309	7.6
	Below NPM threshold	2,976	6.8
	Total	6,835	15.7

Notes: "Above NPM threshold" is sponsorship for brands that contain products that have NPM scores all equal to or above the threshold. "Above/Below NPM threshold" is sponsorship for brands that contain some products above and some below the threshold. "Below NPM threshold" is sponsorship for brands that contain products that have NPM scores all below the threshold. Pre watershed is 05.30-21.00, post watershed is 21.00 - 05.30. Column (3) shows the total number of sponsorship slots. Column (4) shows the percentage of all slots across 2015. Details of how we identify children's programming are given in Appendix B.

Appendix

TV advertising of food and drink,
by Nutritional Profiling Model score

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Institute for Fiscal Studies

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A   Child impacts by day of the week

Figure 3 shows the total number of child impacts recorded on weekends and weekdays in each hour of the day (over all food and drink products, excluding sponsorship, summed over the entire year). Figure 4 shows the total number of child impacts recorded on each day of the week in each hour of the day (ovre all food and drink products, excluding sponsorships, summed over the entire year).

Figure 3: *Child impacts by hour of day for weekdays and weekends*
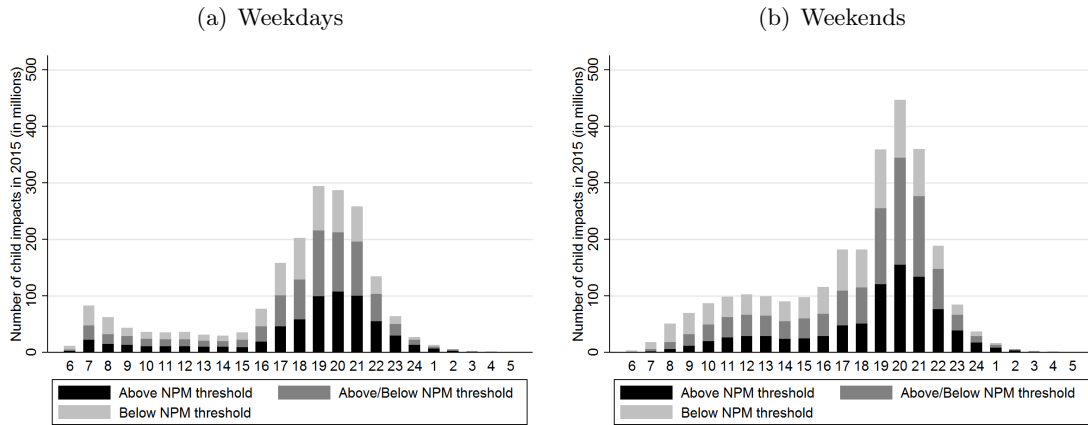
(a) Weekdays

(b) Weekends

Notes: Each bar shows the total child impacts, summed over the course of 2015, for each hour of the day (either weekday or weekend) and for all food and drink products. "Above NPM threshold" is advertising for brands that contain products that have NPM scores all equal to or above the threshold. "Above/Below NPM threshold" is advertising for brands or ranges that contain some products above and some below the threshold. "Below NPM threshold" is advertising for brands that contain products that have NPM scores all below the threshold.

Figure 4: *Child impacts by hour of the day for each day of the week*
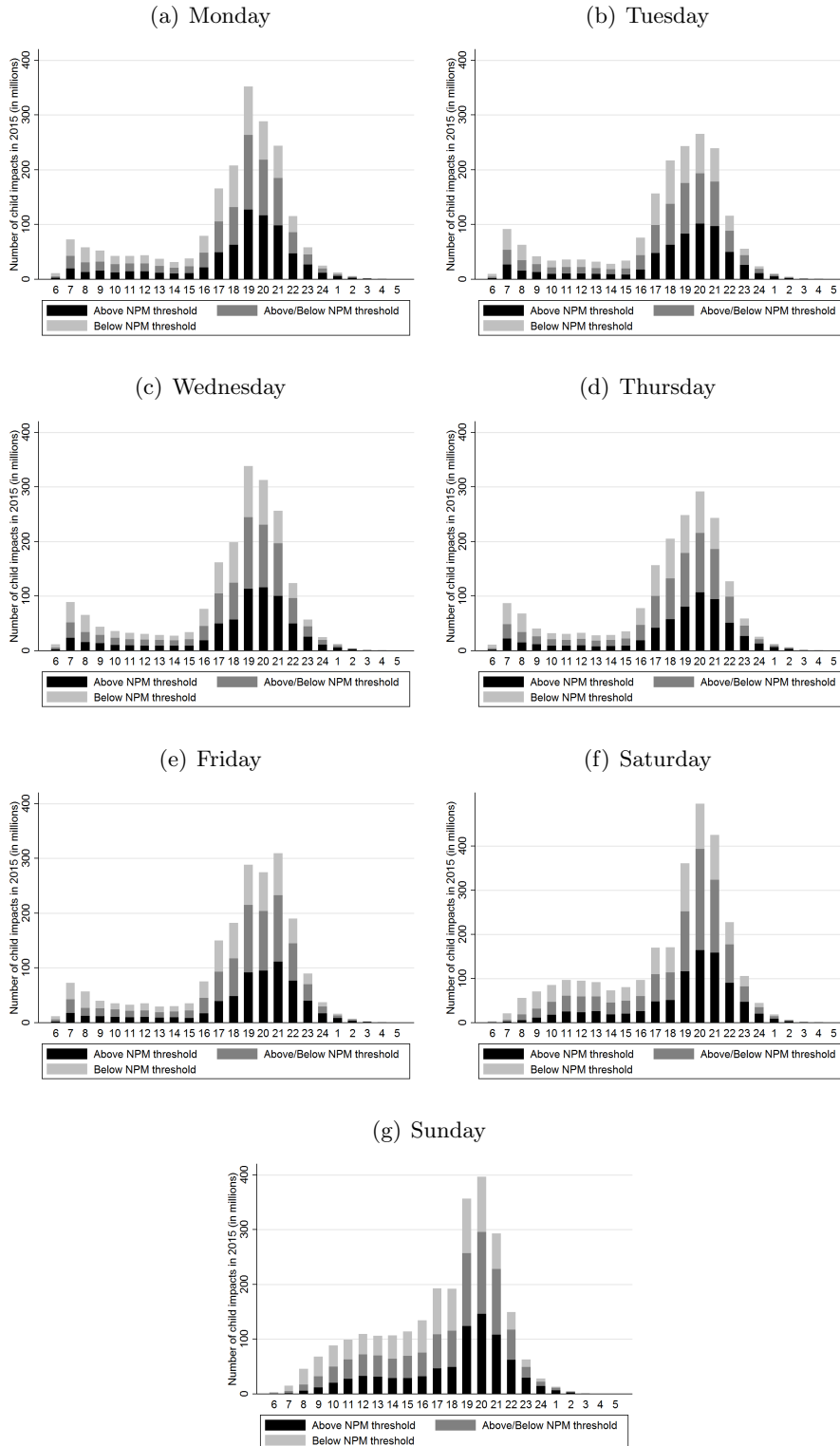
(a) Monday

(b) Tuesday

(c) Wednesday

(d) Thursday

(e) Friday

(f) Saturday

(g) Sunday

Notes: Each bar shows the total child impacts, summed over the course of 2015, for each hour of the day (conditional on weekday) and for all food and drink products. "Above NPM threshold" is advertising for brands that contain products that have NPM scores all equal to or above the threshold. "Above/Below NPM threshold" is advertising for brands or ranges that contain some products above and some below the threshold. "Below NPM threshold" is advertising for brands that contain products that have NPM scores all below the threshold.

3

B   Defining children's programming

B.1   Regulation

CAP Code 32.5.1 The following may not be advertised in or adjacent to childrens programmes or programmes commissioned for, principally directed at or likely to appeal particularly to audiences below the age of 16: food or drink products that are assessed as high in fat, salt or sugar (HFSS) in accordance with the nutrient profiling scheme published by the Food Standards Agency (FSA) on 6 December 2005.

These limitations have been in place since 2007, with the code having been written by the Committee of Advertising Practice (CAP) and enforced by the ASA (Advertising Standards Authority).

The ASA website explains this requirement as meaning that such ads do not appear in 'children's media' (i.e. where under 16s are the main target audience) or other media where under 16s make up more than 25% of the audience. It also states that marketers are expected to hold evidence to support their placement choices.

B.2   Nielsen Data on TV programmes

The data provided by Nielsen specify the programmes that were shown before and after the advert, and the channel that they are shown on. They also provide a classification of the genre of the programme shown *before* the advert (but not after). We use this, along with the impacts data, to classify programmes and channels that are likely to be subject to the regulation as described above.

There are seven genres provided by Nielsen that we aggregate into one 'Children' category. We group channels into 7 categories: ITV, Channel 4, Channel 5, Cable: Children, Cable: Sports, Cable: Movies, Cable: Other. 'Cable: Children' are channels for which more than 70% of total impacts are during children's programmes (defined using genre, described above).

The impacts data record the number of pairs of eyes that view an advert. Although we do not have data on the audience figures of the TV programmes directly, we can use information on the composition of the audience that see the adverts shown before or during the programmes. We have information on the impacts separately by children (aged 4-15) and adults (aged 16-64). We do not have information on the impacts for people aged 65 and above.

Using the genre and channel definition we define children's programmes as those that either (i) are in the genre category 'Children' or (ii) are shown on channels in the channel

group 'Cable: Children'. These are programmes for which we think it is likely that the restrictions around advertising HFSS apply.

We verify this by looking at the share of total impacts during programme-channel pairs that are made up of children's impacts. The regulation states that if the audience is greater than 25% children, then HFSS foods cannot be advertised. We use the impact share of children to proxy for this. This is not precisely the measure used by the advertising authorities because (i) we do not measure impacts for people aged over 65, (ii) our measure aggregates impacts over the whole year, and (iii) we are looking at impacts of adverts shown during or before the programmes, not impacts of the programmes themselves.

However, it should give a fairly good indication of whether we have defined a set of programmes for which the advertising restrictions are likely to apply. Table 13 shows that only 0.75% of total impacts during children's programming occur during programme-channel pairs that have a children impact share below 25%; conversely, only 0.43% of total impacts during non children's programming occur during programme-channel pairs that have a children impact share above 25%.

Table 13: *Impact shares and children's programming*

	Share of total impacts on programme-channel pairs for which the children impact share is:	
	Below 25%	Above 25%
Children's programmes	0.75	99.25
Not children's programmes	99.57	0.43

Notes: We define children's programmes as those that either (i) are in the genre category 'Children' or (ii) are shown on channels in the channel group 'Cable: Children'. For each programme-channel pair we calculate the share of total (for people aged between 4 and 64) impacts that are made up by children (aged 4-15). We define an indicator equal to 1 if this share is above 25%. The numbers show the share of total impacts for children's programmes (row 1) and not children's programmes (row 2) that occur during programme-channel in which this indicator is equal to 1 or not.

We also show the impact weighted distribution of children impact shares across programme-channels, by children's and non children's programmes, respectively; see Figure 5. The figure shows that the two distributions of children impact shares across the two sets of programmes are almost disjoint, with very few child impact shares below 0.25 for children's programmes and very few child impact shares above 0.25 for non children's programmes.

5

Figure 5: *Impact weighted distribution of children impact shares across programme-channels*
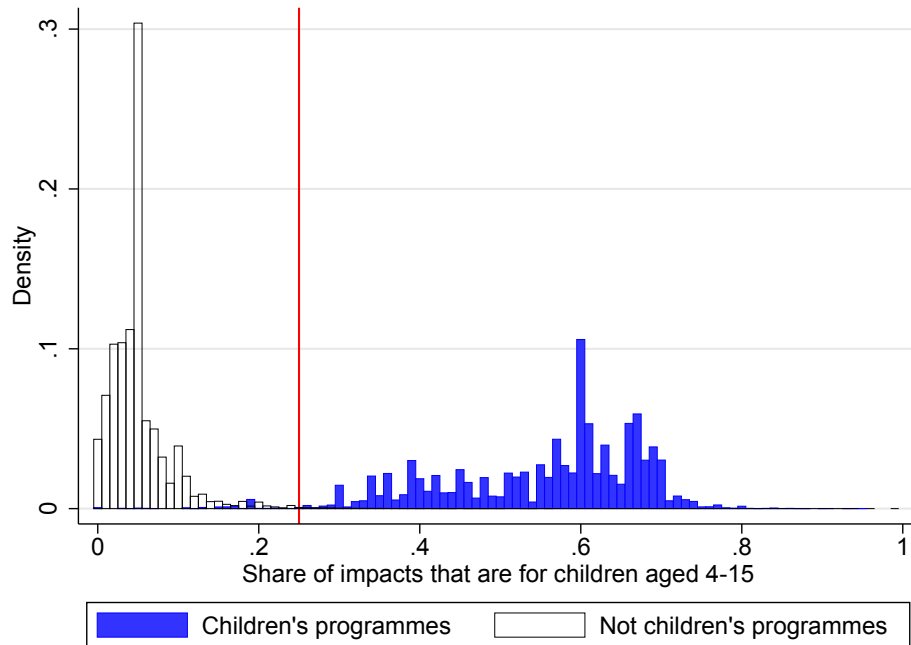
Notes: For each programme-channel pair we calculate the share of total (for people aged between 4 and 64) impacts that are made up by children (aged 4-15). The figure shows the share of impacts across programme-channels that fall into 0.01 width bins of this measure, drawn separately for children's programmes and non children's programmes. We define children's programmes as those that either (i) are in the genre category 'Children' or (ii) are shown on channels in the channel group 'Cable: Children'. The red line is at 0.25.

C Calculating the NPM scores for brands advertised

In order to analyse the advertising patterns of products by NPM score, we match the advertising data to the information on the nutritional composition of food and drink products from the Kantar Worldpanel. The data contain information on the energy (kj), sugar, saturated fat, salt, protein and fibre content at the barcode (UPC) level. We also require information on the fruit, vegetable and nut (FVN) content of products, which we calculate separately, as detailed below. We apply the Nutritional Profiling Model (NPM) to this data to calculate the NPM score for each barcode. We match the brand variable in the advertising data to the set of barcodes in the Kantar data that belong to that brand.

C.1 The Nutritional Profiling Model

		UK NPM 2004/5[a]							
		UK NPM 2004/5 Based on 8950kJ (2130kcal) diet, 3.75% scoring bands							
		'A' points				'C' points			
		Energy kJ (kcal)	Saturated fat (g)	Total sugars (g)	Sodium (mg)	Protein (g)	FVN (%)	Fibre (AOAC) (g)	Fibre (NSP) (g)
		8,950kJ (2,130kcal)	11% food energy	21% food energy	2400mg	42g	400g	24g	18g
0	≤	335	1	4.5	90	1.6	40	0.9	0.7
1	>	335	1	4.5	90	1.6	40	0.9	0.7
2	>	670	2	9	180	3.2	60	1.9	1.4
3	>	1005	3	13.5	270	4.8	-	2.8	2.1
4	>	1340	4	18	360	6.4	-	3.7	2.8
5	>	1675	5	22.5	450	8	80	4.7	3.5
6	>	2010	6	27	540				
7	>	2345	7	31	630				
8	>	2680	8	36	720				
9	>	3015	9	40	810				
10	>	3350	10	45	900				

[a] Calculating a nutrient profiling score
- A maximum of ten points can be awarded for each ingredient (energy, saturated fat, sugar and salt). The total 'A' points are the sum of the points scored for each ingredient. Total 'A' points = [points for energy] + [points for saturated fat] + [points for free sugars] + [points for salt]
- A maximum of five points can be awarded for protein and fruit, vegetables and nuts. A maximum of eight points can be awarded for fibre (either as AOAC or NSP). The total 'C' points are the sum of the points for each ingredient. Total 'C' points = [points for fruit, vegetables and nut content] + [points for fibre (either NSP or AOAC)] + [points for protein]
- If a food or drink scores 11 or more 'A' points then it cannot score points for protein unless it also scores 5 points for fruit, vegetables and nuts.
- a food is classified as 'high in fat, sugar or salt' where it scores 4 points or more, and
- a drink is classified as 'high in fat sugar or salt' where it scores 1 point or more

[b] Adjusted as a proportional change from the existing UK NPM 2004/5 value of 24g (18g NSP).

Nutrient Profiling Technical Guidance April 2009 : "The nutrient profiling model was developed by the FSA to provide Ofcom, the broadcast regulator, with a tool to

differentiate foods on the basis of their nutritional composition, in the context of television advertising foods to children.

The model is a simple scoring system where points are allocated on the basis of the nutrient content of 100g of a food or drink. Points are awarded for A nutrients and for C nutrients. The score for C nutrients is then subtracted from the score for A nutrients to give the final nutrient profile score.

Foods scoring 4 or more points, or drinks scoring 1 or more points, are classified as less healthy and are subject to Ofcoms controls on the advertising of foods to children on TV. The model applies equally to all food and drink; there are no exemptions."

C.2   Using Kantar data to calculate a product's NPM

Table 14 shows the components of the NPM and whether they are recorded in the Kantar data.

Table 14: *Nutrients in the NPM*

Nutrient	IFS-Kantar Data
Energy (kJ)	Recorded in Kantar
Saturated fat (g)	Recorded in Kantar
Sugar (g)	Recorded in Kantar
Salt (g)	Recorded in Kantar
Protein (g)	Recorded in Kantar
FVN (%)	**Not recorded in Kantar**
Fibre (g)	Recorded in Kantar, we believe on NSP basis

There are three key points to note about our approach:

- We believe that fibre is reported on NSP basis only. In cases where this is not correct, there may be some measurement error.

- For some products the nutrients are recorded per portion, not per 100g; we will use data provided by PHE to correct this in the Kantar data.

- FVN is not recorded in Kantar. To calculate the FVN content of product we will initially categorise products into those that are 0% or 100% FVN on the basis of their product category. For products with FVN between 0 and 100% we have looked up the ingredients of highly advertised products in each product category, as shown in Sections C.4.1 - C.4.5. In order to be awarded any C points for FVN the product must be at least 40% FVN. As detailed below, the only product types that we believe this to be the case for are sauces, spreads, soups and juices. For all other product types that are not 100% FVN we award 0 points for FVN. For sauces, spreads, soups and juices we consider those products that, when assigned an FVN score of 0, have an NPM score above the threshold but within 5 points of the threshold (i.e. if

8

assigned the maximum number of points for FVN would drop below the threshold). For each of these brands, we look up the ingredients and calculate the FVN content.

C.2.1 Fibre

There are two methods to calculate fibre content that are commonly used for nutritional labelling purposes: the Englyst method, used to determine non-starch polysaccharides (NSP) content, and the Association of Official Analytical Chemists (AOAC) method, used to determine total dietary fibre (TDF).

Our understanding is that food labels in the UK typically report NSP, and our results will be sensitive to this assumption.

C.2.2 Calculating nutrients per 100g

The NPM uses a scoring system where points are allocated on the basis of the nutrient content of **100g** of a food or drink. The nutrient contents of most products in the Kantar are recorded per 100g, however there are a few exceptions. In cases where the nutrient contents of a product are recorded in terms of ml, we assume 1g=1ml. The more problematic cases are where nutrients are recorded per unit (e.g. per egg) or per serving.

The Kantar data reports 'baseweighttype', which defined the basis on which nutrients are measured. The different base weight types are:

- baseweighttype=2: units of measurement are grams

- baseweighttype=3: units of measurement are millilitres

- baseweighttype=15: units of measurement are pounds

- baseweighttype=61: units of measurement are units

- baseweighttype=62: units of measurement are drained weight grams

Nutrients for base weight types 2, 3, 15 and 62 can readily be converted into nutrients per 100g/ml.

Products that are categorised as base weight type 61 have nutrient values given per unit (i.e. serving) and quantity information that gives number of servings. We can compute total nutrients in a product but not per 100g. For these products we will use the PHE-Kantar nutrient values to estimate the per 100g contents.

PHE has provided us with data on the nutrients energy (kj), energy (kcal), sugar, saturates and sodium. From these we can back out an approximate measure per 100g. We use the

imputed size of the product to convert the nutrient values for protein and fibre into g/100g.

We think that this provides a good estimate. For products that are heavily advertised and close to the NPM threshold, we individually check their nutritional information on the package to ensure accuracy.

C.3 Fruit, Vegetables and Nuts ("FVN")

The FVN content of products is not recorded in the Kantar data. Our approach to calculating FVN will vary by product type.

C.3.1 Definition of FVN

1. Fruit and vegetables should be defined as products in Eurocode 2:

   (a) Group 7.10 (Pulses);

   (b) Group 8.10 (Leaf vegetables); 8.15 (Brassicas); 8.20 (Stalk vegetables); 8.25 (Shoot vegetables); 8.30 (Onion-family vegetables); 8.38 (Root vegetables); 8.40 (Fruit vegetables); 8.42 (Flower-head vegetables); 8.44 (Pod vegetables); 8.45 (Seed vegetables and immature pulses); 8.47 (Sprouted seed vegetables); 8.50 (Edible fungi); 8.55 (Seaweeds and algae); 8.60 (Vegetable mixtures) i.e. excluding Group 8.34 (Tubers (including potatoes))

   (c) Group 9.10 (Malaceous fruit); 9.20 (Prunus species fruit); 9.25 (Other stone fruit); 9.30 (Berries); 9.40 (Citrus fruit); 9.50 (Miscellaneous fruit); 9.60 (Fruit mixtures) This definition of fruit and vegetables is the same as that of the 5-a-Day programme

2. Nuts should be defined as products in Eurocode 2:

   (a) Group 7.20 (Underground pulses (i.e. peanuts))

   (b) Group 7.40 (Nuts)

3. Only fruit and vegetables, including those that are sliced, peeled, tinned, frozen, cooked, dried or minimally processed (such as juices or purees) should count for the purpose of calculating a score. Fruit and vegetables which have been subject to further processing (e.g. by converting them to concentrated juices, powders or oils) should not count.

4. Nuts, which are whole, roasted, chopped, grated and ground should count.

5. The weight of dried fruit, vegetables and nuts or pureed tomatoes should be multiplied by 2 (in the numerator and denominator) when calculating the amount in g per 100g of fruit, vegetables and nuts. No multiplier should be applied to the weight of juice and purees (other than tomato).

6. The amount of fruit and vegetables (in g per 100g) in the product can be calculated either before or after cooking.

C.3.2 Calculating the FVN component of NPM

'C' points are awarded for FVN on the basis of whether FVN accounts for over 40% of the product, over 60% or over 80%. We therefore do not need to know the precise amount of FVN, only whether it falls in these ranges.

- **Products that are 100% FVN:**
  We can identify the products that fall into these categories in the Kantar data by using information in Kantar on the product category and matching this to the definition (e.g. all products in the categories pulses, leaf vegetables etc.). These products will be given a score of 5.

- **Products that contain some FVN but less than 100% FVN:**
  PHE provided FVN nutrient information on 2606 products in the PHE-Kantar nutrient data, which break down as follows:

Table 15: *Calculating the FVN component of NPM*

FVN range	Number of products (%)	Example products
Less than 40%	2138 (82.0%)	Cabdury Dairy Milk Fruit & Nut, Tesco Creamy Gooseberry Fool
40-60%	82 (3.1%)	Heinz Spaghetti Hoops, Tesco Houmous
60-80%	72 (2.8)	Tesco Everyday Value Tomato Soup, Sainsbury's Basics Baked Beans
80% +	315 (12.1%)	Almonds toasted, Sainsbury's Basics Mushy Peas

The following categories are likely candidates to have a FVN content greater than 40%:

- biscuits and cereal bars i.e. that contain dried fruit or nuts

- muesli and other breakfast cereals

- processed food (e.g. soups, pizza, ready meals) that contain sufficiently high proportion of fruit or vegetables

- sauces and spreads

For each of these categories we have considered a few example products, either which we expect to have a high FVN content or which are heavily advertised, see Table 16. The full ingredients of each product are listed in section C.4.1 - C.4.4

We have also considered a few examples of juices, because a number of juice products in the PHE data have FVN shares between 40% and 80%. The full ingredients of these are listed in section C.4.5.

C.4 Examples of products with less than 100% FVN

Table 16 gives examples of products which we considered likely to contain over 40% FVN (and hence score points) but less than 100% FVN.

- All products that fall into the Cereal Bars or Cereals categories have less than 40% FVN and therefore we will assign them 0 points.

- With the exception of Heinz Cream Tomato Soup, all products in the processed food category also have less than 40% FVN.

- For fruit juices, we need to distinguish between fresh juices, such as Waitrose's Orange Juice with bits, and juices that are from concentrate. Our understanding is that the former is included in FVN, whereas the latter is not ("Fruit and vegetables which have been subject to further processing (e.g. by converting them to concentrated juices...").

- For sauces, spreads and soups, many products have FVN content above 40% but less than 100%. For products in these categories that are highly advertised or close to the NPM threshold we will calculate FVN content individually by looking up the ingredients of each product. For products that are not heavily advertised we will calculate a category average.

Table 16: *Examples of products containing FVN*

Product Type	Product	FVN (%)	
		PHE Calculation (%)	Our Calculations (%)
Cereal Bars	McVities Breakfast Oaty Breaks	0	7
	Nature Valley Crunchy	0	0
	Nabisco - Belvita Honey And Nut Biscuits	2.5	2.5
	Go Ahead Forest Fruit Yogurt Breaks	41	25.8
	Sainsbury's Taste The Difference Tea Cakes	42.5	27
Cereals	Kelloggs Krave Chocolate Hazelnut	4	0
	Alpen Original Muesli	23.7	14.5
	Special K Red Berries Cereal	10.4	10
	Tesco Fruit and Fibre	42.1	27
	Nestle Shredded Wheat Cereal	0	0
Processed Foods	Heinz Cream of Tomato Soup	89	89
	John West Steam Pots	0	3.4
	Danone - Activia Yogurt	8	8
	Snicker Bar	24	24
	Tesco Finest Cream Mushroom Soup	-	23
Sauces and Spreads	Heinz Tomato Ketchup	93	74
	Tesco Strawberry Jam	45	45
	Ocean Spray Whole Berry Cranberry Sauce	45	45
Juice	Tesco Everyday Value Orange Juice	50	0
	Sainsbury's Mango Juice Drink 1L	40	38
	Ocean Spray Light Cranberry Classic Juice Drink	27	0
	Waitrose orange juice with bits	100	100

C.4.1   Cereal Bars - Examples

McVities Breakfast Oaty Breaks - 4% FVN

Ingredients: Rolled Oats (32%), Wheat Flour, Vegetable Fats (Palm, Rapeseed), Sugar, Cranberry Pieces (7%) [Cranberries (4%), Sugar, Humectant (Glycerine), Acidity Regulator (Citric Acid), Vegetable Oil (Sunflower)], Invert Sugar Syrup, Puffed Rice Balls (Rice, Sugar, Wheat Gluten, Oats, Barley Malt Syrup, Salt), Raising Agent (Sodium Bicarbonate), Emulsifier (E472e), Salt, Natural Flavouring, Niacin (B3), Riboflavin (B2), Vitamin B12, Vitamin D, Vitamin B6, Thiamin (B1), Iron.

Nature Valley Crunchy - 0% FVN

Ingredients: Whole Grain Rolled Oats (59%), Sugar, Sunflower Oil, Honey (2%), Salt, Molasses, Emulsifier: Sunflower Lecithin, Raising Agent: Sodium Bicarbonate.

Nabisco - Belvita Honey And Nut Biscuits - 2.5%

Ingredients: Cereals 61.5 % [Wheat Flour 41.4 %, Wholegrain Cereals 20.1 % (Oat Flakes 12.3 %, Wholegrain Wheat Flour 3.2 %, Wholegrain Barley Flour 2.6 %, Wholegrain Spelt Flour (Wheat) 1 %, Wholegrain Rye Flour 1 %)], Sugar, Rapeseed Oil, Chocolate Chips 3 % [(Sugar, Cocoa Mass, Vegetable Oils (Palm, Shea, in varying proportions), Dextrose, Cocoa Butter, Emulsifier (Soya Lecithin)], Hazelnut Pieces 2.5 %, Honey 2 %, Minerals (Calcium Carbonate, Magnesium Carbonate, Elemental Iron), Raising Agents (Sodium Hydrogen Carbonate, Ammonium Hydrogen Carbonate), Salt, Acid (Citric Acid), Emulsifier (Soya Lecithin), Flavourings

Go Ahead Forest Fruit Yogurt Breaks - 25.8% FVN

Ingredients: Wheat Flour, Sultanas (20%), Sugar, Vegetable Fats (Palm, Shea, Sal and/or Mango) in varying proportions, Sunflower), Currants (4%), Bulking Agent (Maltitol Syrup), Whey Solids (Milk), Oat Fibre, Maltodextrin, Humectant (Glycerine), Dried Skimmed Yogurt (1%) (Milk), Calcium Carbonate, Fruit Pure (1%) (Raspberries, Strawberries, Redcurrants, Blackberries), Emulsifiers (Soya Lecithin, E472e), Rice Flour, Wheat Bran, Glucose Syrup, Dried Skimmed Milk, Dried Whole Milk, Natural Flavourings, Raising Agents (Sodium Bicarbonate, Ammonium Bicarbonate, Disodium Diphosphate), Salt, Lactose (Milk), Gelling Agent (Pectin), Citrus Fibre, Acidity Regulators (Citric Acid, Sodium Citrates), Acid (Citric Acid), Stabiliser (Calcium Lactate), Finished product contains the equivalent of 0.2% Raspberries, 0.2% Strawberries, 0.2% Redcurrants, 0.2% Blackberries.

Sainsbury's Large Teacakes, Taste the Difference - 27%

Ingredients; Fortified British Wheat Flour (Wheat Flour, Calcium Carbonate, Iron, Niacin, Thiamin), Water, Sultanas (9%), Raisins (8%), Currants (7%), Cornish Butter (Cow's Milk) (5%), Invert Sugar, Chilean Flame Raisins (3%), Yeast, Free Range Egg (2%), Sugar, Wheat Flour, Salt, Wheat Gluten, Potato Starch, Orange Zest, Lemon Zest, Flour Treatment Agent: Ascorbic Acid, Cornflour, Cassia Oil, Clove Oil, Orange Oil, Lemon Grass Oil, Vanilla Extract, Coriander Seed Oil, Geranium Oil, Apricot Kernel Oil

C.4.2 Cereals - Examples

Kelloggs Krave Chocolate Hazelnut - 0% FVN

Ingredients: Cereal Flours (Wheat 26%, Oat 17%, Rice 11%), Sugar, Vegetable Oil (Rapeseed, Palm), Chocolate (4%) (Sugar, Cocoa Mass), Maltodextrin, Fat Reduced Cocoa Powder, Hazelnuts (2%), Skimmed Milk Powder, Milk Whey Powder, Salt, Emulsifier(Sunflower Lecithin), Colour(Carotenes, Annatto), Natural Flavouring, Antioxidant (Ascorbyl Palmitate, Alpha Tocopherol), Vitamins & Minerals: Niacin, Iron, Vitamin B6, Vitamin B2 (Riboflavin), Vitamin B1 (Thiamin), Folic Acid, Vitamin B12

Alpen Original Muesli - 14.5% FVN

Ingredients: Wholegrain Wheat (38%), Wholegrain Rolled Oats (36%), Raisins (12%), Sugar, Skimmed Milk Powder, Milk Whey Powder, Roasted Sliced Nuts (2.5%) (Hazelnuts & Almonds), Malted Barley Extract, Salt.

Special K Red Berries Cereal - 10% FVN (free dried fruit content x 2 as fruit is listed as dried, in line with official NPM guidance)

Ingredients: Rice(44%), Wholewheat (35%), Sugar, Free Dried Fruits (5%) (Strawberry, Cherry), Barley (4.5%), Malted Barley Flour (3.5%), Barley Malt Flavouring, Salt, Vitamins & Minerals: Niacin, Iron, Zinc, Vitamin B2 (Riboflavin), Vitamin B1 (Thiamin), Vitamin B6, Folic Acid, Vitamin D, Vitamin B12.

Tesco Fruit & Fibre - 27% FVN

Ingredients: Mixed Fruit (26%), Sugar, Barley Malt Extract, Roasted Hazelnuts (1%), Salt, Sunflower Oil, Iron, Niacin, Pantothenic Acid, Thiamin, Riboflavin, Vitamin B6,

Folic Acid, Vitamin D, Vitamin B12, Mixed Fruit contains: Raisins, Toasted Coconut Flakes, Dried Sweetened Banana Chips (Banana, Coconut Oil, Sugar, Flavouring), Dried Apple

Nestle Shredded Wheat Cereal) - 0% FVN

Ingredients: Whole Grain Wheat (100%)

C.4.3   Processed Foods - Examples

Calculating the FVN content of processed foods such as soups, pizzas and ready meals is more difficult as the ingredients rarely list the ingredients share of all FVN ingredients.

Heinz Cream of Tomato Soup - 89% FVN

Ingredients: Tomatoes (89%), Water, Modified Cornflour, Sugar, Rapeseed Oil, Dried Skimmed Milk, Salt, Cream (Milk), Milk Proteins, Acidity Regulator - Citric Acid, Spice Extracts, Herb Extracts

John West Steam Pot - 3.4% FVN (doubled recorded sun-dried tomato content, in line with NPM official guidance as tomato is dried).

Skipjack Tuna (43%), Dried Couscous (38%) (from Wheat), Extra Virgin Olive Oil (7%), Sun-Dried Tomatoes (1.7%), Basil Leaves, Salt, Natural Flavouring, Caster Sugar, Sea Salt, Tomato Powder, Wheat Flour, Dried Glucose Syrup, Garlic Powder, Yeast Extract (Yeast Extract, Salt, Refined Palm Oil), Onion Powder, Sunflower Oil, Dextrose, Ground Oregano, Black Pepper, Thyme , Basil, Oregano, Colour: Paprika Oleoresin, Tomato Flavour

Danone - Activia Fruit Yogurt - 12% FVN

Ingredients: Fat Free Yogurt (Milk), Strawberry (12%), Oligofructose (Fibre), Modified Maize Starch, Flavourings, Black Carrot Concentrate, Acidity Regulators (Sodium Citrate, Lactic Acid), Stabilisers (Pectin, Carrageenan), Sweeteners (Acesulfame K, Sucralose), Vitamin D

Snicker Bar - 24% FVN

Ingredients: Milk chocolate (35%) with soft nougat (14%) and caramel centre (27%) with fresh roasted peanuts (24%).

Tesco Finest Cream Mushroom Soup - 23% FVN

Vegetable Stock, Mushrooms (23%) (Button Mushroom, Chestnut Mushroom, Wild Mushrooms), Potato, Whole Milk, Double Cream (Milk) (6%), Butter (Milk), White Wine, Rapeseed Oil, Roast Garlic Pure, Salt, Herbs, Black Pepper, Vegetable Stock contains: Water, Sugar, Salt, Onion Concentrate, Carrot Concentrate, Sunflower Oil, Cornflour, Leek Concentrate, Celery Concentrate, Garlic Concentrate, Nutmeg Oil

C.4.4 Sauces and Spreads

Heinz Tomato Ketchup - over 74% FVN (*calculating following PHE guidance whereby if the ingredient declaration suggested the amount of tomatoes used in the product was more than 100g, the amounts were divided by 2 to estimate the percentage of pureed FVN content*)

Ingredients: Tomatoes (148g per 100g Tomato Ketchup), Spirit Vinegar, Sugar, Salt, Spice and Herb Extracts (contain Celery), Spice

Tesco Strawberry Jam - 45% FVN

Ingredients: Glucose-Fructose Syrup, Strawberries, Sugar, Citric Acid, Gelling Agent (Pectin), Acidity Regulator (Sodium Citrate), Prepared with 45g of fruit per 100g, Total Sugar content 63g per 100g

Ocean Spray Whole Berry Cranberry Sauce - 45% FVN

Ingredients: Glucose-Fructose Syrup, Strawberries, Sugar, Citric Acid, Gelling Agent (Pectin), Acidity Regulator (Sodium Citrate), Prepared with 45g of fruit per 100g, Total Sugar content 63g per 100g

C.4.5 Juice

Tesco Everyday Value Orange Juice - 0% FVN

Ingredients: Orange Juice From Concentrate (100%)

Sainsbury's Mango Juice Drink - 38% FVN (purees, even if from concentrate count as FVN and all FVN content of purees should be doubled, following official NPM guidance)

Ingredients: Water, Mango Puree From Concentrate (10%), Mango Puree (9%), Sugar, Acid: Citric Acid; Flavourings, Stabiliser: Pectin.

Ocean Spray Light Cranberry Classic Juice Drink - 0% FVN

Ingredients: Water, Cranberry Juice from Concentrate (27%), Flavouring, Sweetener (Sucralose)

Waitrose orange juice with bits - 100% FVN

Ingredients: Orange juice (85%), orange pure, orange pulp

D Products above the NPM threshold advertised during children's programming - example calculation

D.1 Whitworths - Sunny Raisins

Figure 6: *Nutrient information for Whitworths - Sunny Raisins (from Whitworths website, 28/03/2018)*

NUTRITIONAL INFORMATION			
	PER 100G	**PER 42.5G BOX**	**PER 14G BOX**
Energy	1245kJ / 293kcal	529kJ / 125kcal	174kJ/41kcal
Fat	0.4g	0.2g	Trace
of which saturates	0.1g	Trace	Trace
Carbohydrates	69.3g	29.5g	9.7g
of which sugars	69.3g	29.5g	9.7g
Fibre	2.0g	0.9g	0.3g
Protein	2.1g	0.9g	0.3g
Salt	0.2g	0.1g	Trace

Energy = 1245kJ (3 points), Saturated fat = 0.1g (0 points), Sugar = 69.3g (10 points), Sodium = 0.2*400 = 80 (0 points). Therefore A points = 3 + 0 + 10 + 0 = 13. Fibre = 2.0g (2 points), Protein = 2.1g (1 point), FVN = 100% (5 points). Therefore C points = 2 + 1 + 5 = 8

A points - C points = 13 - 8 = 5