

# REPORT ON THE COMPARATIVE NUTRITIONAL PROFILE OF 1,495 FOOD AND BEVERAGE PRODUCTS MARKETED BY 16 LARGE COMPANIES IN INDIA

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## ABBREVIATIONS

ATNI – Access to Nutrition Initiative

HSR – Health Star Rating

NPSC - Nutrient Profile Scoring Criterion

WHO – World Health Organization

WHO Euro – World Health Organization European Regional Office nutrient profile model

WHO SEAR – World Health Organization South East Asian Region nutrient profile model

## DISCLAIMERS

The George Institute for Global Health (The George Institute) prepared this report. Sections of this report involving analysis of sales-weighted data were prepared by ATNI under the terms of their licence to use Euromonitor International data.<sup>1</sup> In addition, ATNI commissioned additional product composition data from Innova Market Insights.<sup>2</sup> ATNI is to assume responsibility for these aspects of the analysis.

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<sup>1</sup> Euromonitor International is an independent, privately owned global market research firm conducting in-country research in 100 countries worldwide analysing 26 consumer industries including; Hot Drinks, Packaged Food and Soft Drinks. Euromonitor International produces historic and forecast cross-comparable market data and strategic reports to narrate the current and future drivers shaping each one.

<sup>2</sup> Innova Market Insights is a commercial knowledge supplier for the Food and Beverage industry.

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## EXECUTIVE SUMMARY

The overall goal of this work is to provide stakeholders, including companies, government, nutrition experts and others, with a fuller understanding of the nutritional quality of packaged food and non-alcoholic beverage products sold by the 16 largest manufacturers in India. Nutrient information for 1,495 packaged food and beverage products sold by these companies were included in this analysis. Nutrient information was obtained either from product packaging or directly from the manufacturer.

First, two nutrient profiling methods were selected to evaluate each company's product portfolio. The Australian Health Star Rating (HSR) system was used to assess the healthiness of company product portfolios and the World Health Organization's South East Asia Regional Office (WHO SEAR) nutrient profile model was used to assess the proportion of products in each company's portfolio suitable to be marketed to children. The proportion of products that could be considered 'healthy' using HSR was determined using a cut-off of 3.5 out of 5.0 stars and was examined both by company and by food/beverage category. Each company was then ranked both by the mean HSR of their product portfolio and the proportion of products meeting WHO SEAR criteria. This part of the analysis was done both with and without sales-weighting using data from Euromonitor International.

The mean healthiness of companies' products was found to be low overall, at 1.9 stars out of 5.0, with substantial variation observed between companies. A low proportion (16%) of products met the HSR 'healthy' cut-off of 3.5 out of 5.0 stars. There were marked differences in the healthiness of similar products when the HSR of products within sub-categories of foods was compared. Only 12% of products overall were eligible to be marketed to children according to the WHO SEAR criteria and two companies had no products eligible for marketing to children at all. When sales-weighting was incorporated into the analysis, an estimated 27% of sales were found to be attributable to products that met the HSR 'healthy' cut-off of 3.5 out of 5.0 stars and 29% of sales were attributable to products eligible to be marketed to children according to the WHO SEAR criteria. Sales-weighting changed the rankings of the companies in relation to healthiness and generally increased the disparities observed between companies.

There were significant strengths and some important weaknesses relating to the research process. For example, only half of the companies were willing to review and provide corrections and/or additions to the list of their product portfolio and nutrition composition of their products that were prepared by TGI and shared by ATNI with all 16 companies. Although this is a major improvement compared to the response rate in 2016 when a first iteration of this assessment was performed, it remains difficult to determine the level of market coverage achieved by the inclusion of these 1,495 products. On balance, it is reasonable to conclude that the average healthiness of the products provided and sold by the largest Indian food companies is sub-optimal. Further, there are important differences between companies that could be addressed by investments that target improvements in the product mix as well as the reformulation of less healthy products. The low number of products eligible for marketing to children is indicative of the unhealthy nature of most of the products offered by India's largest food and beverage manufacturers.

In addition to the remedial actions that the companies could take, there is a clear opportunity for the Government of India to introduce effective and enforceable legislation that prevents the marketing of unhealthy products to children.

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## INTRODUCTION

The George Institute for Global Health's mission is to improve the health of millions of people worldwide. More specifically, the Food Policy Division works to reduce rates of death and disease caused by diets high in salt, saturated fat, sugar and excess energy by undertaking research and advocating for a healthier food environment. The Division's main areas of activity are quantifying the healthiness of the food supply, encouraging food reformulation, and developing innovative approaches to encourage consumers to make healthier food choices.

In 2019, The George Institute was commissioned by the Access to Nutrition Initiative (ATNI) to produce the second *Product Profile* for India to input into the *India Spotlight Index 2020*. The Index will score and rank the contribution of India's largest food and beverage manufacturers to tackling the country's double burden of malnutrition. It will consist of an analysis of those companies' policies, practices and disclosures (the *Corporate Profile*), which includes an analysis of the nutritional quality of each company's food and beverage products in the Indian market (the *Product Profile*). In contrast to the first ATNI *India Spotlight Index* published in 2016, the *Product Profile* will be an integrated part of Category B within the *Corporate Profile* of the *India Spotlight Index 2020*.

The George Institute was selected to undertake this study given its established presence in India with offices in Hyderabad, Bangalore and New Delhi, and its FoodSwitch India database, which contains nutrition information for over 10,000 packaged food and beverage products in the Indian food supply. For the *India Spotlight Index 2020*, a collaboration was established with Innova Market Insights to provide additional food composition data from their database to ensure the coverage of company portfolios was optimal and the most up to date product data could be selected. The George Institute also undertook analysis related to the 2016 India *Product Profile*. The 2016 *Product Profile* can be seen online.<sup>3</sup> The ATNI team, who had access to sales data from the Euromonitor International database through a licensing agreement, also did a series of sales-weighted analyses that have been included in this report.

This report sets out the objectives, methods, results and interpretation of the India *Product Profile* analysis done in 2019 for the *India Spotlight Index 2020*.

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<sup>3</sup> Available at:

[https://www.accesstonutrition.org/sites/us18.atnindex.org/files/resources/india\\_product\\_profile\\_report\\_tgi.pdf](https://www.accesstonutrition.org/sites/us18.atnindex.org/files/resources/india_product_profile_report_tgi.pdf)

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## OVERALL GOAL AND SPECIFIC OBJECTIVES

The overall goal of this work is to provide stakeholders, including companies, government, nutrition experts and others with a fuller understanding of the nutritional quality of packaged food and non-alcoholic beverage products (hereafter “foods and beverages”) sold by the 16 largest manufacturers in India.<sup>4</sup> Specific objectives were to answer the following questions:

1. *What is the average nutritional quality of each company's product portfolio and how do companies compare?* The metric used was the mean Health Star Rating of the product portfolio.
2. *What is the average sales-weighted nutritional quality of each company's product portfolio and how do companies compare?* The metric used was the sales-weighted mean Health Star Rating of the product portfolio.
3. *What proportion of each company's products are 'healthy' and how do companies compare?* The metric used was the proportion of the product portfolio that had a Health Star Rating of 3.5 stars or above.
4. *What proportion of each company's product sales are 'healthy' and how do companies compare?* The metric used was the sales-weighted proportion of products that had a Health Star Rating of 3.5 stars or above.
5. *What proportion of each company's products are eligible to be marketed to children and how do companies compare?* The metric used was the proportion of the product portfolio meeting WHO SEAR criteria for marketing to children.
6. *What proportion of each company's product sales are eligible to be marketed to children and how do companies compare?* The metric used was the sales-weighted proportion of products meeting WHO SEAR criteria for marketing to children.
7. *How much does the nutritional quality of similar products vary?* The metric used was the mean and range of Health Star Rating in selected food categories displayed by company, and overall.

## METHODOLOGY

### Selection of companies

ATNI requested The George Institute to include the products of 16 manufacturers with the highest estimated packaged food and beverage retail sales in India.<sup>5</sup> These encompass the nine companies included in the 2016 India Index, plus another seven large India-based companies – Aavin Illam Tamil Nadu Cooperative Milk Producers Federation Limited, Adani Wilmar, Emami Agrotech Limited, Hatsun Agro Product Limited, Karnataka Co-operative Milk Producers' Federation Ltd (whose products are marketed under the brand name Nandini), Marico Limited and ITC Limited. Compared to 2016, the scope of included companies was broadened by ATNI in 2019 to assess a wider range of packaged food and beverage products with a major impact on the diet and health of consumers in India, produced by a balance of India-based and multinational companies. The included companies, in alphabetical order, with the name used throughout this report in brackets are:

- Aavin Illam, Tamil Nadu Cooperative Milk Producers Federation Limited (Aavin TCMPF)
- Adani Wilmar (Adani Wilmar)

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<sup>4</sup> Note that nutritional quality for the purposes of this report does not include assessment of whether products have been fortified with micronutrients.

<sup>5</sup> Data extracted from Euromonitor International International's 2018 industry publications of; Packaged Food, Hot Drinks and Soft Drinks.

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- Britannia Industries Limited (Britannia Industries)
  - Coca-Cola India (Coca-Cola India)
  - Emami Agrotech Limited (Emami Agrotech)
  - Gujarat Cooperative Milk Marketing Federation (Amul GCMMF)
  - Hatsun Agro Product Limited (Hatsun Agro Product)
  - Hindustan Unilever Limited (Hindustan Unilever)
  - ITC Limited (ITC)
  - Karnataka Cooperative Milk Producers Federation (KMF Nandini)
  - Marico Limited (Marico)
  - Mondelez India Foods Private Limited (Mondelez India)
  - Mother Dairy Fruit & Vegetable Private Limited (Mother Dairy)
  - Nestlé India Limited (Nestlé India)
  - Parle Products Private Limited (Parle Products)
  - PepsiCo India Inc (PepsiCo India)

### Choice of nutrient profile models

Nutrient profiling is the science of classifying or ranking foods according to their nutritional composition for the purpose of preventing disease and promoting health.<sup>6</sup> Nutrient profile models have been developed by academics, government departments, health-related charities and the food industry for a variety of applications including: to underpin food labelling; to regulate advertising of products to children; and to regulate health and nutrition claims. Although nutrient profiling is a tool to quantify aspects of individual foods, not diets, nutrient profile models are commonly used to underpin policies designed to improve the overall nutritional quality of diets.

The 2016 India *Product Profile* utilised two nutrient profile models based on an extensive search of the literature: The Australian Health Star Rating and the WHO Euro Nutrient Profile Model. For the *2020 Index*, the WHO Euro Nutrient Profile Model was substituted with the more relevant and recently-released WHO South East Asia Region (WHO SEAR) Nutrient Profile Model, which is an adaptation of the WHO Euro model, and more applicable to the Indian packaged food supply.

- 1) **The Australian Health Star Rating (HSR)** is a front-of-pack interpretive nutrition labelling system designed to assist consumers in making healthier choices. The underlying nutrient profile model assesses risk nutrients (overall energy, sodium, total sugar, saturated fat) and positive nutrients (fruit and vegetable content, protein, fibre and in some cases, calcium) to score products on the basis of nutritional composition per 100g or 100mL across one of six categories. These scores are then converted to a 'Health Star Rating' from ½ to 5 stars.

Development was led by the Australian government in collaboration with industry, public health and consumer groups, and builds upon the Nutrient Profiling Scoring Criteria (NPSC) previously developed by the Australian and New Zealand Governments to regulate health claims.<sup>7</sup> The NPSC itself was developed from the United Kingdom's OFCOM model. The HSR has been implemented in Australia since June 2014 on a voluntary basis. The system has also been adopted in New Zealand. Further detailed information is available [online](#).<sup>8</sup> One change in HSR rules that has been implemented for the purposes of the *2020 Index* relates to products that require additional ingredients (other than water) for consumption. In the *2016 Index* "as prepared" nutrient values for these products were used in analysis, however for the *2020 Index* "as sold" values have been used for analysis. This rule change affects the category of *Rice, pasta and noodles* in particular.

- 2) **The WHO SEAR model** is a nutrient profile model designed primarily for use and adaptation by Member States of the WHO South East Asian Region when developing policies to restrict food marketing to children. It is important to note that this model was developed only in 2016. The previous 2016 India

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<sup>6</sup> World Health Organization, Nutrient Profiling <http://www.who.int/nutrition/topics/profiling/en/>

<sup>7</sup> See Australia New Zealand Food Standards Code, Standard 1.2.7

<sup>8</sup> Department of Health, Australian Health Star Rating website: <http://healthstarrating.gov.au>

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*Product Profile* used the WHO Euro model which was the only WHO model available at that time. The WHO SEAR model has food and beverage categories more relevant to India and hence has been used in the 2020 *Product Profile* instead.

The model operates by first requiring foods to be allocated to one of 25 categories. Products are then checked against category-specific compositional thresholds for nutrients and other food components. A product must not exceed on a per 100g/mL basis any of the relevant thresholds for that product category if marketing is to be permitted. Results under this model are simply expressed on a binary basis i.e. 'marketing permitted' or 'marketing not permitted'. In the absence of relevant Indian regulation in this area, the model was selected as a reasonable basis by which to determine products' suitability to be marketed to children.

**Table 1 Comparison of the HSR and WHO SEAR models**

	HSR	WHO SEAR
<b>Country/region of origin</b>	Australia	South East Asia
<b>Date of development</b>	2014	2016
<b>Scoring method</b>	Negative nutrients score is combined with positive nutrients score to arrive at a final 'score' which is then converted to a Health Star Rating from 0.5 to 5.0.	Products must not exceed category-specific thresholds per 100g/mL to be permitted to market to children.
<b>Positive nutrients</b>	Protein Fibre Fruit, vegetable, nut and legume content (FVNL) Calcium	N/A
<b>Negative nutrients</b>	Energy Saturated fat Total sugars Sodium	Total fat Saturated fat Total sugars Added sugars Artificial sweeteners Trans fat Sodium
<b>Original purpose of development and existing applications</b>	Front-of-pack nutrition labelling.	Regulation of marketing to children.
<b>Original scoring system</b>	Depending on which category the product falls in, the 'score' is converted to a Health Star Rating from 0.5 to 5.0 stars that can be displayed in a logo on the front of pack.	Depending on the product category, marketing to children is either never permitted (e.g. for confectionery), or only permitted if the product does not exceed specified thresholds of negative nutrients per 100g/mL.

To work optimally, all the nutrient profile models rely on the availability of comprehensive nutrition information. In the Indian context, national nutrition labelling legislation generally only requires the display of energy content (in kilocalories), protein, carbohydrates, total sugars and total fats.<sup>9</sup> Amounts of other nutrients are only required where a nutrient content claim is made. Table 2 below displays the alignment between nutrients required for the operation of the nutrient profile models, and those required to be declared on Indian nutrition labels.

<sup>9</sup> Food Safety and Standards (Packaging and Labelling) Regulations 2011 (India)

**Table 2** Alignment of nutrients required for profiling models with those required by Indian labelling legislation

	Indian Regulations	HSR	WHO SEAR
<b>Total number of nutrients required</b>	<b>5</b>	<b>8</b>	<b>5</b>
Protein	✓	✓	
Fibre		✓	
Fruit and vegetable content		✓	
Energy	✓	✓	✓
Total fat	✓		✓
Saturated fat		✓	✓
Monounsaturated fat			
Trans fat			✓
Carbohydrate	✓		
Total sugars	✓	✓	✓
Added sugars			✓
Other sweeteners			✓
Sodium		✓	✓
Calcium		✓	
<b>Number of nutrients aligned to Indian legislation</b>		<b>3/5</b>	<b>3/5</b>

 = nutrients required by both specified profiling model and Indian labelling legislation

Calculating a nutrient profile score for a product requires values for all data points used by the nutrient profile model and imputation of missing data was therefore required for India.

### Eligibility of food and beverage products

Foods and beverages eligible for inclusion were defined as ‘*all packaged foods and non-alcoholic beverages manufactured by the included companies available for purchase in India.*’ A food or beverage was considered a unique item based on the brand name and description irrespective of serving size and packaging (i.e. a specific brand of cola sold in 330mL cans was considered to be the same food item as the same specific brand of cola sold in 600mL bottles). However, if two products with the same name and description existed yet had different nutrient values, both products were retained in the analysis.

The following products were excluded from analyses:

1. Unprocessed meat, poultry, fish and raw agricultural commodities such as plain cereals (on the basis that such foods are not generally required to carry a nutrient declaration)
2. Plain tea and coffee (on the basis that these make an inherently low nutritional contribution and are thereby not required to display a nutrient declaration)
3. Condiments such as herbs, salt, pepper, vinegars and spices (on the basis that these make an inherently low nutritional contribution and are thereby not required to display a nutrient declaration)
4. Infant formulas, and baby food and baby beverages (excluded because these products are not consumed by the general population and the selected models are not appropriate for their evaluation).

### Product identification

Two data sources were used to create a product list for each manufacturer comprising nutritional information:

- Products in the FoodSwitch India database with data entered or updated after 31 December 2016 (all products since the 2016 *Product Profile*)

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- Products from Innova Market Insight's database with data entered or updated between 1 February 2015 and 31 December 2018

The FoodSwitch India and Innova Market Insight databases were merged, and where the same product was available in both databases, the most recent entry was retained for analysis.

## Data review

In July 2019, the 16 companies were provided with their data for review (product list and nutrient content) and offered an opportunity to make corrections or additions to information about their product range. Eight companies did so and any corrected or new information was updated in the project database.

## Imputation of essential missing data

For the majority of products, the available nutritional information was insufficient to apply the selected nutrient profile models. It was therefore necessary to impute missing data which was done as follows:

- Proxy values for total fat, saturated fat, total sugar, sodium, fibre and 'fruit vegetable nut and legume' (FVNL) content were developed by using available data for 411 food categories and more than 10,000 products in the full FoodSwitch India database (regardless of manufacturer). The average value of the products with available data was estimated for each category and assigned to those products in that category with missing data.
- For added sugars a standard proportion of total sugars was assumed and was specified at the category level:
  - For cakes and desserts, confectionery, sauces and beverages (excluding milk), total sugar values were assigned as '*added sugars*'
  - For milks and yoghurts, an amount of sugar of up to 6g/100g and 8g/100g respectively was considered to be naturally occurring. These are reasonable values based upon known concentrations of lactose in these products. Any amount over this was assigned as '*added sugars*'.

## Product categorisation

Products were categorised in three ways:

- To one of 411 categories within the FoodSwitch India database.
- To one of 25 WHO SEAR categories.
- To one of 20 categories within the Euromonitor International food and beverage categorisation system. This categorisation was made to enable the nutrition analysis to be combined with sales data.

Groupings of Euromonitor International categories and sub-categories – hereafter called 'EMI subsets' - were made to generate subsets of products of sufficient size to allow nutritional analysis of comparable food products. Of note, results for milk drinks are presented as 'foods' not 'drinks' according to Euromonitor International's method of classification but were considered beverages when calculating their nutrient profile results. Also of note is that higher-level categories have been used in the 2020 *Product Profile* compared to the 2016 *Product Profile*. This was to ensure that the 2020 India *Product Profile* utilised the same classification system as *ATNI's 2018 Global Product Profile*.

**Table 3** EMI subsets

Food categories	Beverage categories
Baked goods	Bottled water
Breakfast cereals	Carbonates
Confectionery	Concentrates
Dairy	Juice
Edible oils	Other hot drinks
Ice cream and frozen desserts	Sports drinks
Processed fruit and vegetables	
Ready meals	
Rice, pasta and noodles	
Sauces, dressings and condiments	
Savoury snacks	
Soup	
Sweet biscuits, snack bars and fruit snacks	
Sweet spreads	

Definitions for subsets can be found on ATNI's website

### Application of imputed data in the nutrient profile models

The two nutrient profile models were applied with the following use of proxy information from imputed values:

- For the purposes of generating a Health Star Rating, proxy values were used for saturated fat, sugar, fibre and sodium, but *only* if the product label was not missing energy nor missing three or more of four key nutrients (saturated fat, sugar, sodium, protein) required for the analysis. If three or more of these nutrients were missing, then the product was excluded from the analysis. Products were not included in analysis if energy content was missing. Plain packaged water (whether still or carbonated) was assigned a Health Star Rating of 5.0 consistent with the HSR Guidelines.<sup>10</sup>
- For the purposes of generating an outcome under the WHO SEAR nutrient profile model, proxy values were used for total fat, saturated fat, sugar and sodium, but *only* if the product was not missing three or more nutrients required for analysis under a similar strategy to that described above for the Health Star Rating. Eligibility was determined category-by-category as per the WHO model which uses different nutrients for each WHO-specified category.

These decisions were a pragmatic compromise between enabling analysis of the majority of identified products versus basing analysis on mostly proxy data. Due to differences in the models and nutrients involved, some products were eligible for scoring under one model but not another. Table 4 outlines the sources of nutrient information used in generating nutrient profile scores.

<sup>10</sup> Australian Government, Health Star Rating System 'Guide for Industry', available at <http://healthstarrating.gov.au/internet/healthstarrating/publishing.nsf/Content/guide-for-industry-document> (accessed 11 November 2016)

**Table 4** Sources of information relied upon in applying nutrient profile models

	HSR	WHO SEAR*
<b>Total products analysed</b>	<b>1,456</b>	<b>1,495</b>
All data direct from label	518	518
Proxy data required for one nutrient	582	582
Proxy data required for two nutrients	356	362
Proxy data required for three nutrients	NA	33

\* Requirements differ depending on which WHO category is being observed.

## Sales data

Sales data were obtained at the EMI subset level for each company. This was used to generate sales-weighted outcomes for analyses.

As ATNI held the licence for the Euromonitor International data, ATNI did the analyses and provided The George Institute with results. ATNI accepts full responsibility for these components of the report.

The sales data were those for the 2018 period. Where a company did not command 0.1% or more market share in a category, no sales data were available. Accordingly, products that met these criteria were excluded from the respective analyses.

## Analysis strategy

There were seven research questions addressed:

1. *What is the average nutritional quality of each company's product portfolio and how do companies compare?* This question was addressed by calculating the mean HSR of the product portfolio for each company and ranking companies accordingly. Separate analyses were done for all foods and beverages combined, foods alone and beverages alone. Results are also presented by each EMI subset.
2. *What is the average sales-weighted nutritional quality of each company's product portfolio and how do companies compare?* The metric used was the sales-weighted mean HSR of the product portfolio. ATNI calculated this for each company by: (1) calculating the mean HSR for each EMI subset; (2) multiplying the mean HSR of the food category by the percentage sales for the subset; (3) summing the values obtained for all subsets.
3. *What proportion of each company's products are 'healthy' and how do companies compare?* The metric used was the proportion of the product portfolio that had a HSR of 3.5 stars or above. Separate analyses were done for all foods and beverages combined, foods alone and beverages alone. The cut point of 3.5 or above ( $\geq 3.5$  HSR) is based on work commissioned by the New South Wales Ministry of Health in Australia examining the alignment of HSR with existing school food service provision standards and the Australian 2013 Dietary Guidelines and is the cut-off used most in the academic literature. Research has shown that "healthy core foods with a HSR of  $\geq 3.5$  can be confidently promoted in public settings as healthier choices."<sup>11</sup>
4. *What proportion of each company's product sales are 'healthy' and how do companies compare?* The metric used was the proportion of a company's sales that were products with a HSR of 3.5 or above. ATNI estimated this for each company by: (1) calculating the percentage of products in each EMI subset with an HSR of 3.5 or above; (2) multiplying that percentage by the percentage sales for the subset; (3) summing these values for all subsets.

<sup>11</sup> Dunford E, Cobcroft M, Thomas M, Wu JH. Technical Report: Alignment of the NSW Healthy Food Provision Policy with the Health Star Rating System. Sydney, NSW: NSW Ministry of Health; 2015. Available at <http://www.health.nsw.gov.au/heal/Publications/health-star-rating-system.pdf>

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5. *What proportion of each company's products is eligible to be marketed to children and how do companies compare?* The metric used was the proportion of the product portfolio meeting WHO SEAR criteria for marketing to children. Separate analyses were done for all foods and beverages combined, foods alone and beverages alone. Results are also presented by each EMI subset.
  6. *What proportion of each company's product sales is eligible to be marketed to children and how do companies compare?* The metric used was the proportion of a company's sales that were products eligible to be marketed to children under the WHO SEAR nutrient profile model. ATNI estimated this for each company by: (1) calculating the percentage of eligible products in each EMI subset; (2) multiplying that percentage by the percentage sales for the subset; (3) summing these values for all subsets.
  7. *How does the nutritional quality of similar products vary across companies and overall?* The metric used was the mean and range of HSR within EMI subset.

The data were analysed using STATA statistical software version 15.1.

## RESULTS

### Products included

Initially, 2,823 products were identified manufactured by the 16 included companies. Of these, 120 were excluded as they did not have sufficient baseline data to conduct nutrient profiling for both schemes, and 1,208 were excluded as duplicate products of different pack size. This left 1,495 unique products for analysis from 16 companies.

**Table 5** Number of food products by company in EMI subsets

EMI subset	Aavin TCMPF	Adani Wilmar	Amul GCFMF	Britannia Industries	Coca-Cola India	Emami Agrotech	Hatsun Agro Product	Hindustan Unilever	ITC	KMF Nandini	Marico	Mondelez India	Mother Dairy	Nestlé India	Parle Products	PepsiCo India	Total
Baked goods	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
Breakfast cereals	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	5	37
Confectionery	0	0	17	0	0	0	0	0	19	0	0	74	0	28	26	0	164
Dairy	18	0	100	34	2	0	23	0	0	33	0	0	62	15	0	0	287
Edible oils	0	13	0	0	0	6	0	0	0	0	9	0	6	0	0	0	34
Ice cream and frozen desserts	0	0	58	0	0	0	83	65	0	29	0	0	30	0	0	0	265
Processed fruit and vegetables	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
Ready meals	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	26
Rice, pasta and noodles	0	0	0	0	0	0	0	0	21	0	0	0	0	16	0	0	37
Sauces, dressings and condiments	0	0	0	0	0	0	0	19	0	0	0	0	0	9	0	0	28
Savoury snacks	0	0	0	8	0	0	0	0	45	0	0	0	0	0	59	37	149
Soup	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	23
Sweet biscuits, snack bars and fruit snacks	0	0	0	65	0	0	0	0	77	0	0	10	0	0	117	0	269
Sweet spreads	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
<b>Total</b>	<b>18</b>	<b>13</b>	<b>175</b>	<b>136</b>	<b>2</b>	<b>6</b>	<b>106</b>	<b>114</b>	<b>188</b>	<b>62</b>	<b>41</b>	<b>84</b>	<b>106</b>	<b>68</b>	<b>202</b>	<b>42</b>	<b>1,363</b>

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**Table 6** Number of beverage products by company in EMI subsets

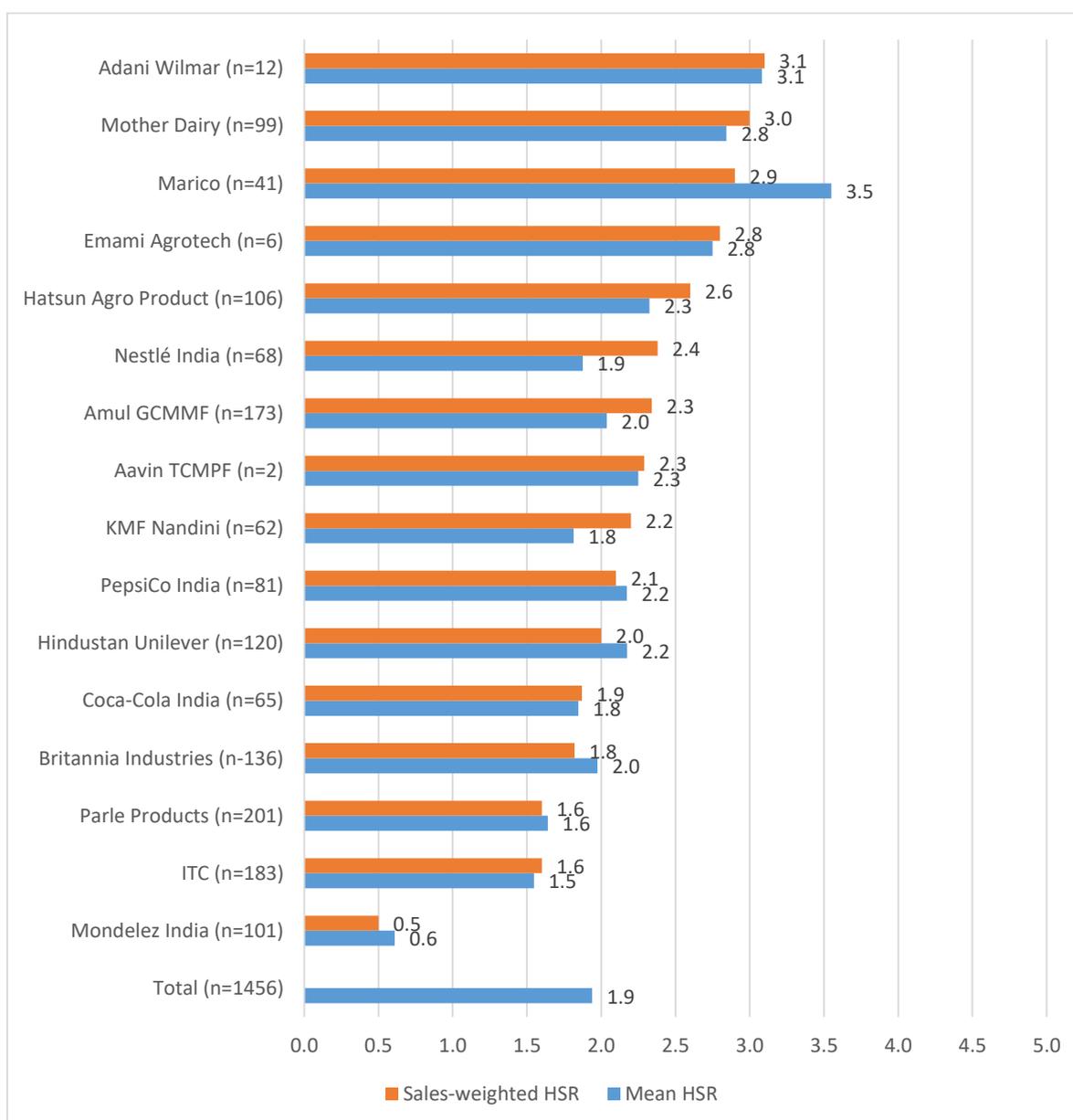
EMI subset	Coca-Cola India	Hindustan Unilever	Mondelez India	PepsiCo India	Total
Bottled water	5	0	0	3	8
Carbonates	27	0	0	17	44
Concentrates	0	6	4	0	10
Juice	33	0	0	19	52
Other hot drinks	0	0	13	0	13
Sports drinks	5	0	0	0	5
<b>Total</b>	<b>70</b>	<b>6</b>	<b>17</b>	<b>39</b>	<b>132</b>

The number of products examined in this report ranged from six products for Emami Agrotech to 202 products for Parle Products. The biggest EMI subsets were *Dairy* (n=287), *Sweet biscuits, snack bars and fruit snacks* (n=269) and *Ice cream and frozen desserts* (n=265). The smallest subsets were *Sports drinks* (n=5) and *Processed fruit and vegetables* (n=8).

## ANALYSIS 1 and 2 Corporate rankings based upon mean nutrient profile of products and sales-weighted nutrient profile of products

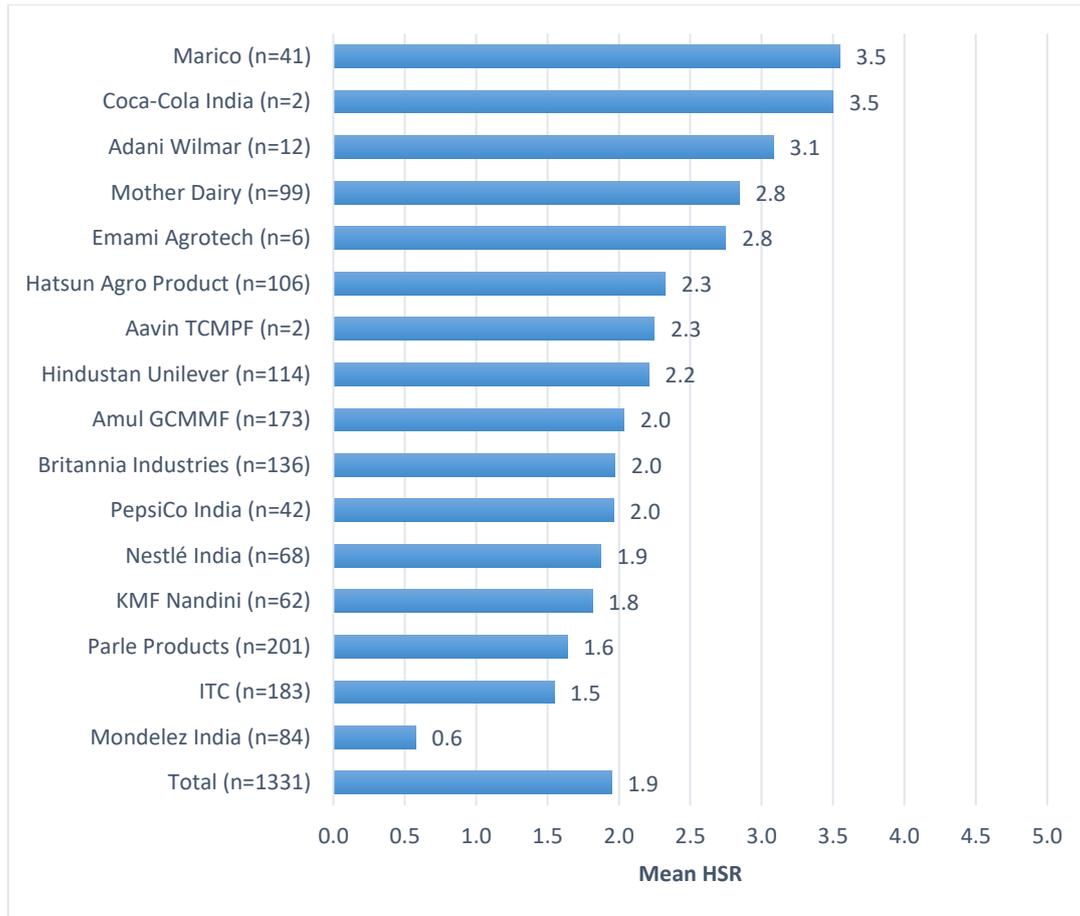
Out of the 1,495 products included in analysis, there was sufficient nutrient information for 1,456 products to generate a Health Star Rating.

**Figure 1** Mean Health Star Rating and sales-weighted mean Health Star Rating by company – overall product portfolio (16 companies)



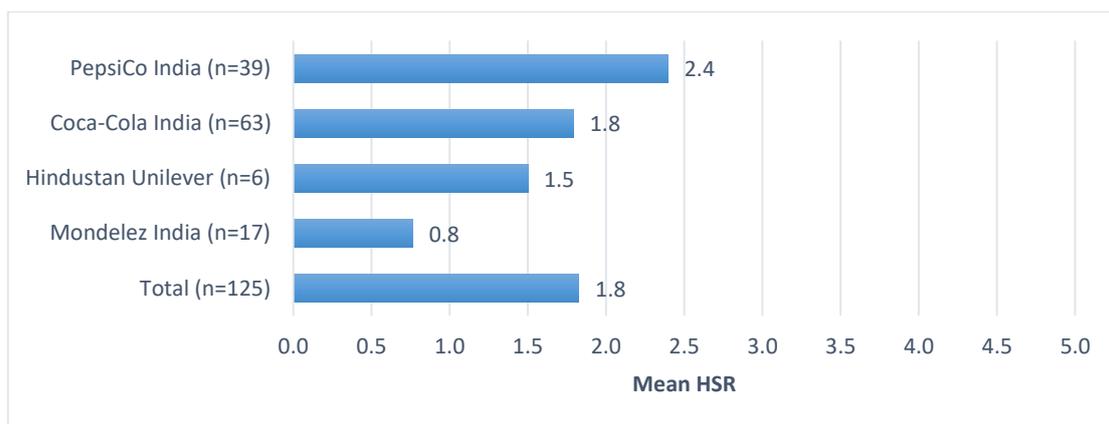
Adani Wilmar had the highest sales-weighted HSR of 3.1 out of 5.0, based on 12 products, slightly ahead of Mother Dairy, which sold 99 products. Mondelez India had by far the lowest mean sales-weighted HSR of 0.5 out of 5.0 as its portfolio of 101 products comprised predominantly confectionery items. Overall, average HSR was low at only 1.9 stars out of 5.0 for all companies combined. Marico, with 41 products, was the top-ranked company before sales-weighting was applied, when it then dropped to third place. Other companies with notable changes before and after sales-weighting was applied include Hindustan Unilever and Britannia Industries, which both dropped four places following sales-weighting, and KMF Nandini and Nestlé India both improving their rankings following sales-weighting.

**Figure 2 Mean Health Star Rating by company – foods (16 companies)**



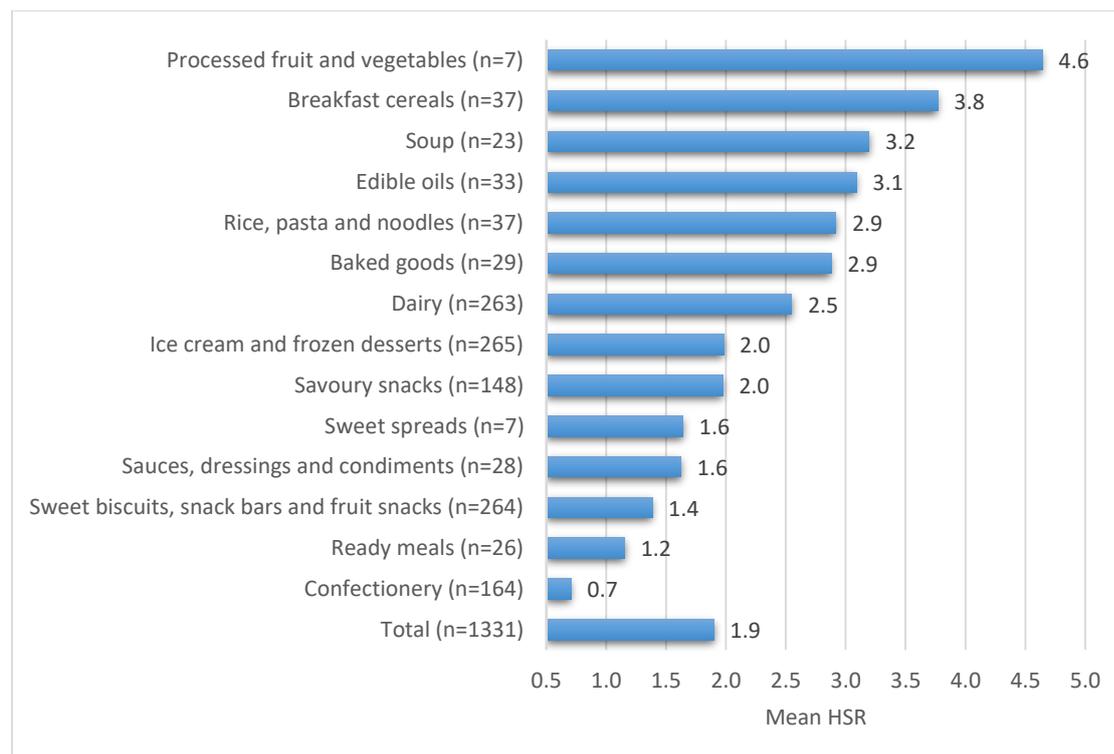
Marico had the highest mean HSR for food products of 3.5, slightly ahead of Coca-Cola India (although Coca-Cola India had only 2 food products). Overall mean HSR for foods was low at only 1.9 stars out of 5.0 for all companies combined.

**Figure 3 Mean Health Star Rating by company – beverages (4 companies)**

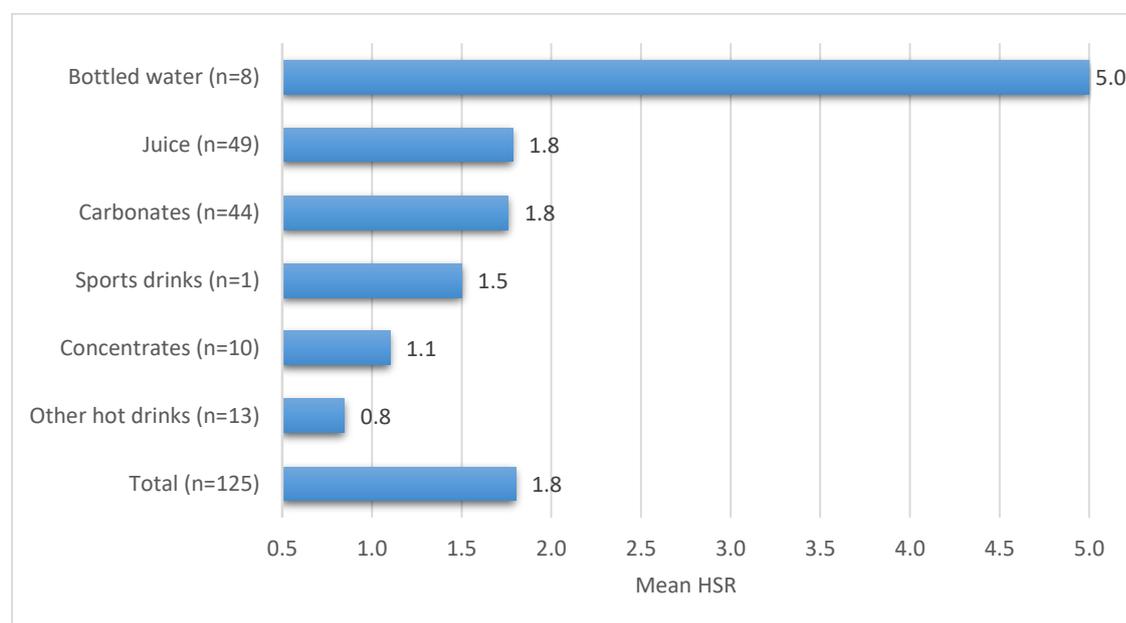


Ratings for beverages were lower than for foods. PepsiCo India had the highest mean HSR of 2.4, and Mondelez India the lowest with 0.8. Results for individual products within some company portfolios were skewed at each end of the HSR spectrum. For example, companies which made plain bottled still and carbonated water benefited from the HSR rule that these products receive a HSR of 5.0. Nearly all other beverages received low HSRs (see Figure 5 on next page).

**Figure 4 Health Star Rating by category - foods**



**Figure 5 Mean Health Star Rating by category - beverages**



The mean HSR for foods was slightly higher at 1.9 than for beverages at 1.8. Unsurprisingly, *Processed fruit and vegetables* and *Bottled water* were the two categories that had the highest mean HSR (4.6 and 5.0 respectively). *Breakfast cereals* was the only other category to have a mean HSR that would be considered “healthy” (3.6). *Confectionery* was the category with the lowest mean HSR (0.7) followed by *Ready meals* (1.2) and *Sweet biscuits, snack bars and fruit snacks* (1.4).

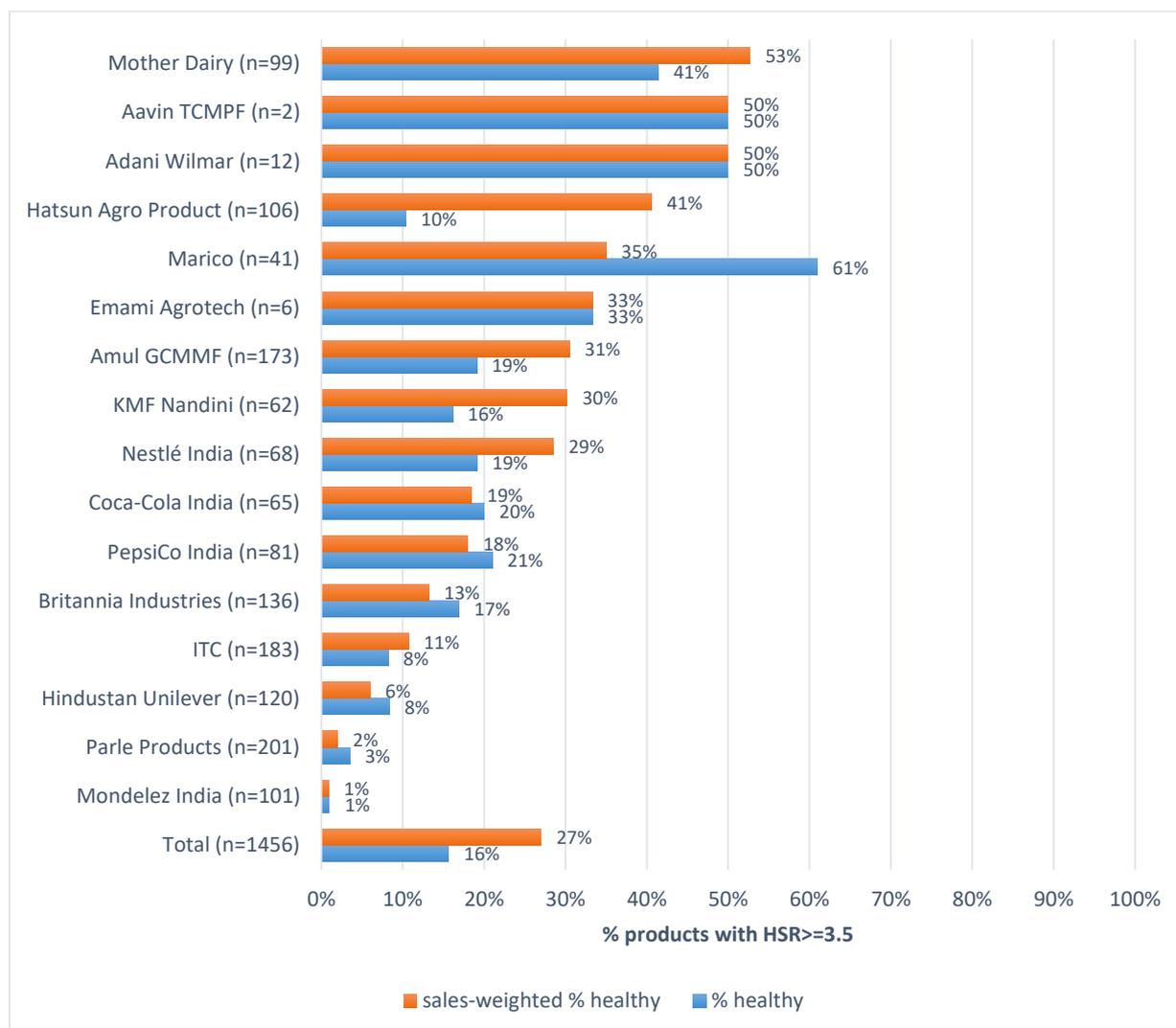
**Table 7** Number of products with each Health Star Rating overall and by company

Star rating (HSR model): 3.5 stars or more = healthy product											
	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	Total
Aavin TCMFP	1	0	0	0	0	0	0	1	0	0	2
Adani Wilmar	0	1	0	3	0	2	3	0	3	0	12
Amul GCMMF	47	13	11	28	26	15	9	15	6	3	173
Britannia Industries	20	17	34	20	7	15	11	10	1	1	136
Coca-Cola India	12	24	10	5	0	1	2	0	0	11	65
Emami Agrotech	0	1	0	1	0	2	1	1	0	0	6
Hatsun Agro Product	3	6	27	9	23	27	4	7	0	0	106
Hindustan Unilever	5	4	33	18	32	18	10	0	0	0	120
ITC	21	46	73	23	3	2	5	10	0	0	183
KMF Nandini	23	2	9	7	6	5	1	5	4	0	62
Marico	0	2	1	1	10	2	3	4	15	3	41
Mondelez India	92	3	5	0	0	0	0	0	0	1	101
Mother Dairy	6	4	14	17	8	9	10	11	13	7	99
Nestlé India	26	5	7	0	5	12	6	4	3	0	68
Parle Products	32	33	57	39	18	15	3	3	1	0	201
PepsiCo India	8	20	11	16	7	2	1	2	3	11	81
<b>Total</b>	<b>296</b>	<b>181</b>	<b>292</b>	<b>187</b>	<b>145</b>	<b>127</b>	<b>69</b>	<b>73</b>	<b>49</b>	<b>37</b>	<b>1,456</b>
<b>% of total products</b>	<b>20.3%</b>	<b>12.4%</b>	<b>20.1%</b>	<b>12.8%</b>	<b>10.0%</b>	<b>8.7%</b>	<b>4.7%</b>	<b>5.0%</b>	<b>3.4%</b>	<b>2.5%</b>	<b>100.0%</b>

Table 7 above shows the spread of results achieved by all companies across the HSR spectrum. The 16 companies assessed offered products with a range of HSRs but a large number scored poorly. Just over half (53%) of all products on the market scored 1.5 stars or below. The products that scored 3.5 and above totalled 228, accounting for only 16% of all products.

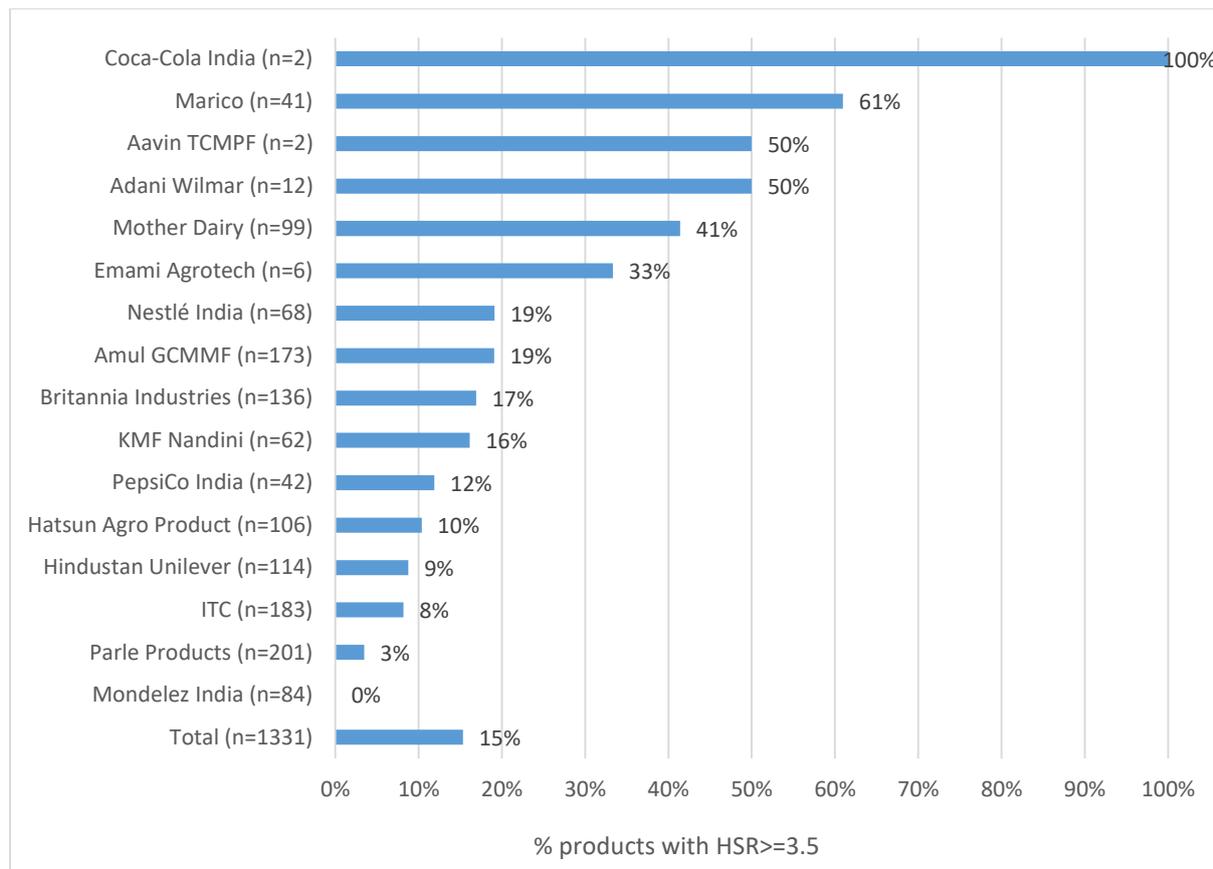
### ANALYSIS 3 and 4 Corporate rankings based upon proportion of 'healthy' products

**Figure 6** Proportion of 'healthy' products and sales-weighted proportion of 'healthy' products by company - overall product portfolio (16 companies)



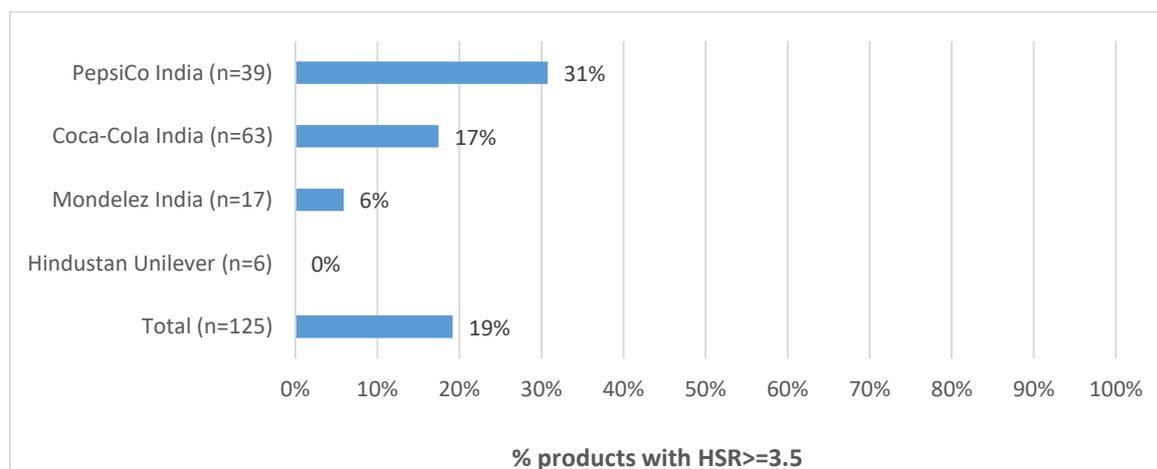
Only 16% of products from all manufacturers were classified as 'healthy' by this metric, which rose to a proportion of 27% after sales-weighting was applied. Mother Dairy had the highest proportion of its portfolio achieving a sales-weighted HSR of 3.5 or above (sales-weighted proportion of 53%). Mother Dairy scored well for its processed vegetable products and some drinking milks and yoghurts (classified by Euromonitor International as foods). Aavin TCMPF and Adani Wilmar had 50% of products receiving 3.5 HSR or above (for Aavin only two products could be assessed as for other products there was insufficient nutrition information available). Interestingly, Marico had the highest proportion of products receiving an HSR of 3.5 before sales-weighting was taken into account but dropped to fifth place after sales-weighting was applied. Parle Products and Mondelez India had the lowest proportion of 'healthy' products: both predominantly make confectionery and biscuits (cookies) that received low HSRs. The most notable changes in rankings of companies before and after sales-weighting included Hatsun Agro Product, which ranked twelfth before sales-weighting was taken into account, and jumped to fourth rank following sales-weighting, indicating that their healthier products accounted for a larger proportion of product sales. The opposite result was seen for PepsiCo India, which ranked 6<sup>th</sup> before sales-weighting was applied yet dropped to eleventh following sales-weighting, indicating a higher proportion of its sales were attributable to less healthy products.

**Figure 7** Proportion of 'healthy' products by company - foods (16 companies)



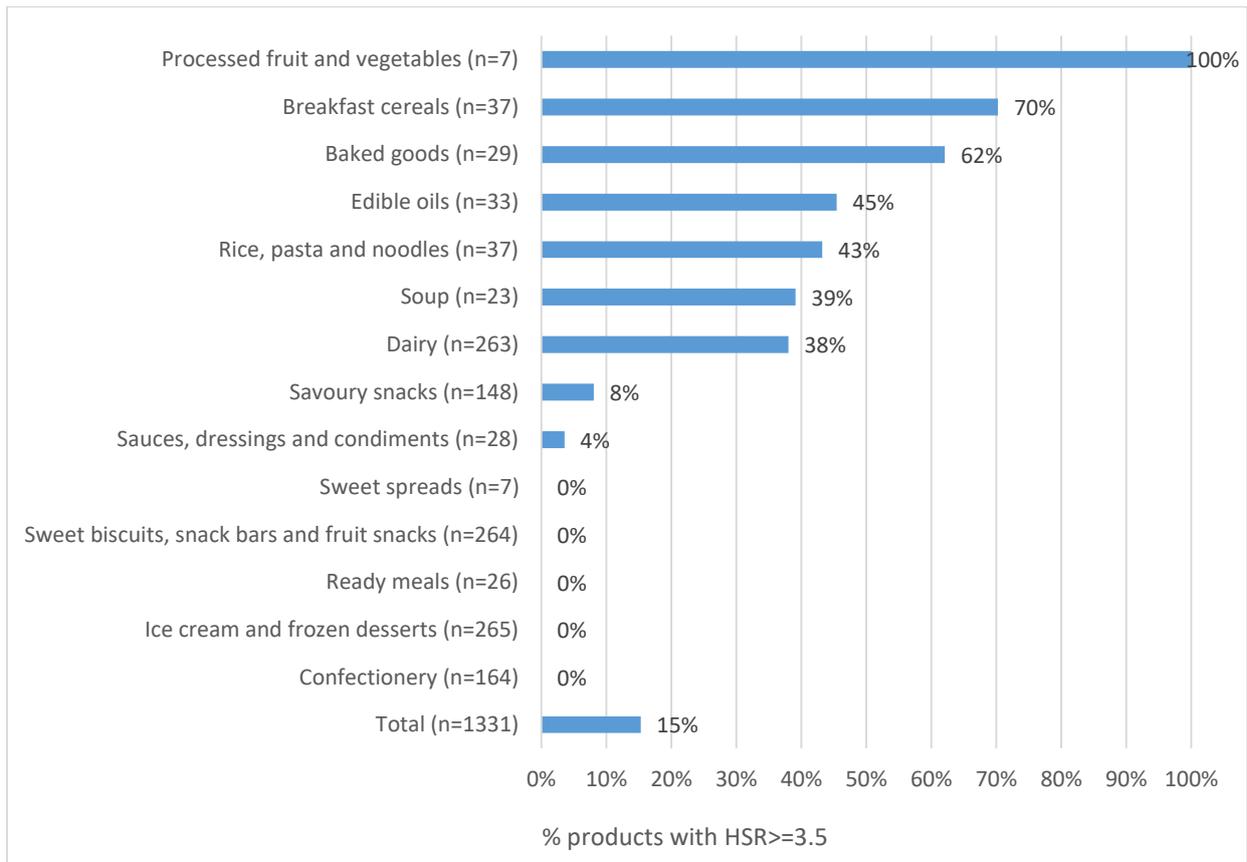
Results for foods were very similar to overall product portfolios for some companies but not others. For example, although only 19% of Coca-Cola India’s overall product portfolio received an HSR of 3.5 or above, 100% of its food products scored  $\geq 3.5$ . However, it is important to note that Coca-Cola’s food products were dairy beverages, which are classified as food products in the analysis. Aavin TCMPF and Adani Wilmar received the same result as their overall portfolio, as they do not sell beverage products.

**Figure 8** Proportion of 'healthy' products by company - beverages (4 companies)

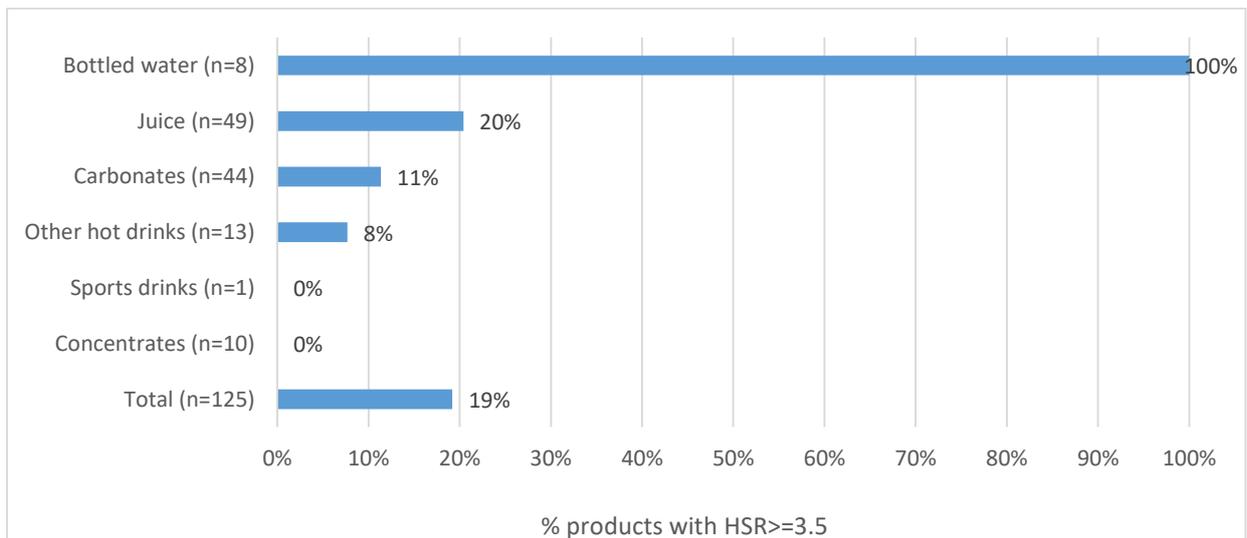


Very few beverages were considered 'healthy'. PepsiCo India ranked first, based on several varieties of plain bottled water and plain soda water mixers it produces which received an HSR of 5.0. The vast majority of all companies’ beverages – sugar and artificially sweetened carbonated beverages, powder concentrates, energy drinks, juice drinks and hot beverages - received HSR results  $\leq 2.0$ .

**Figure 9** Proportion of 'healthy' products by category - foods



**Figure 10** Proportion of 'healthy' products by category – beverages

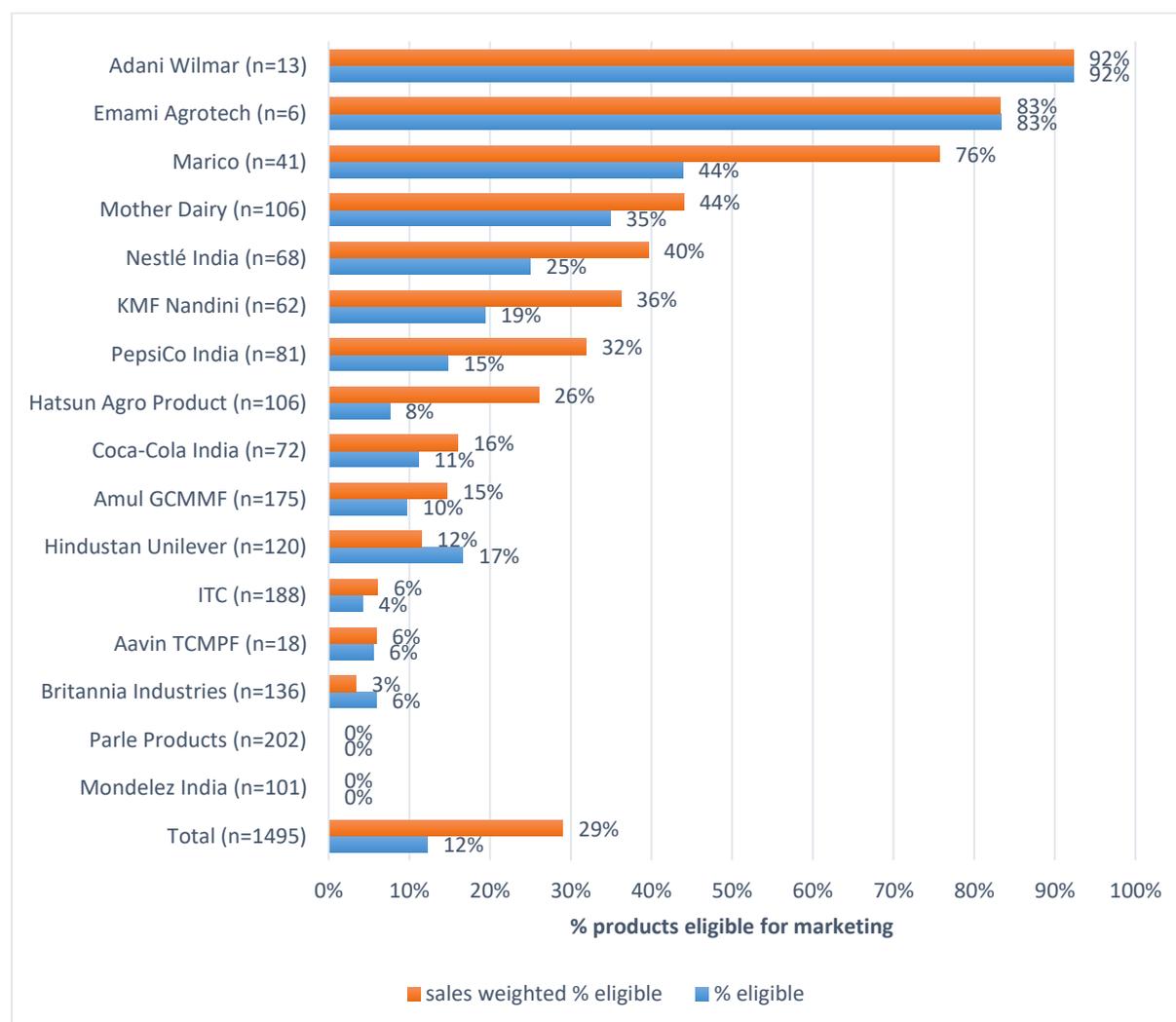


Similar results were seen to the mean HSR analysis, with *Processed fruit and vegetables* and *Bottled water* the two categories with the largest proportion of “healthy” products (100% for both). However, unlike with the mean HSR analysis, beverages had a higher proportion of healthy products than foods (19% versus 15%). Five food categories and two beverage categories had zero products that would be considered “healthy” using this metric.

## ANALYSIS 5 and 6 Corporate ranking based upon proportions and sales-weighted proportions of products meeting WHO SEAR criteria

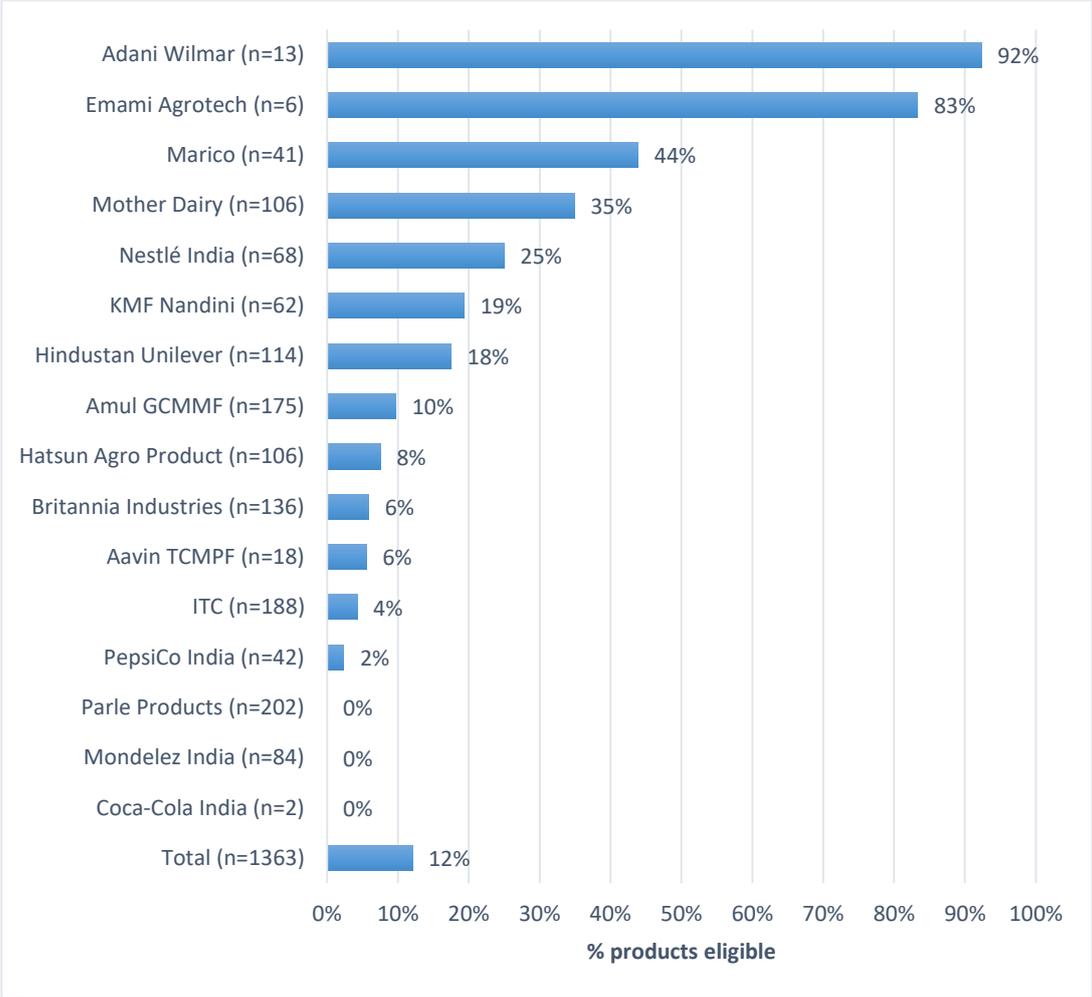
Of the 1,495 products available for analysis, 1,495 had sufficient nutrient data to be assessed under the WHO SEAR nutrient profile model.

**Figure 11** Proportions of products meeting WHO SEAR criteria for marketing to children – overall product portfolio (16 companies)



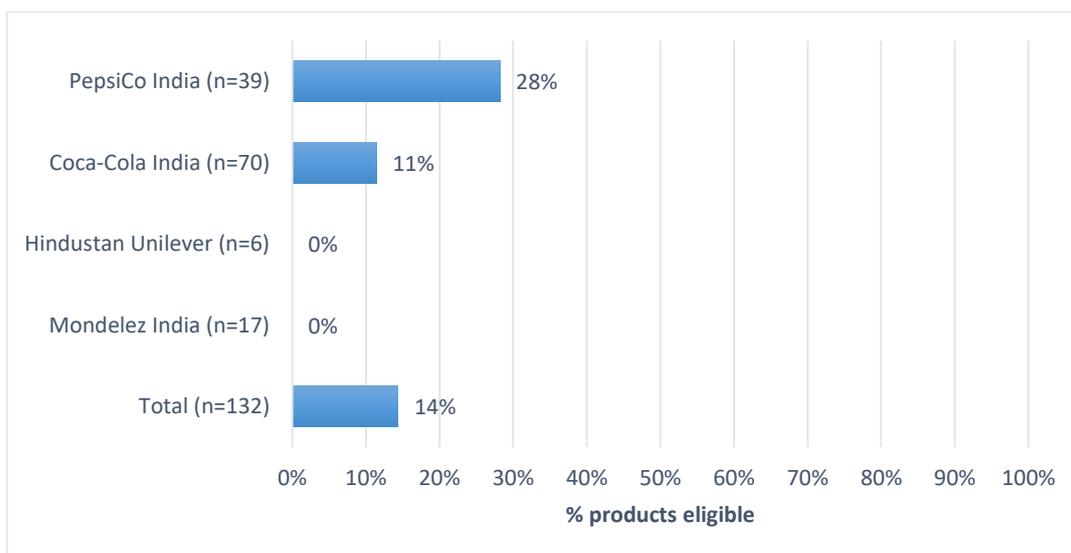
A low proportion of products across all companies overall (12%) would be eligible for marketing to children under WHO SEAR criteria, which rose to 29% after sales-weighting was applied. The company that had the highest proportion overall of products that could be marketed to children was Adani Wilmar at 92%, followed by Emami Agrotech with 83% and Marico with 76%. For five of the 16 companies, 10% or less of products were eligible for marketing to children once sales-weighting of results was applied, with Parle Products and Mondelez India having 0% eligible. There were fewer changes to company rankings before and after sales-weighting using this metric than the HSR. The most notable changes included Hindustan Unilever, which dropped from seventh to eleventh rank following sales-weighting (indicating that less healthy products account for a higher proportion of sales), and Hatsun Agro Product which increased from eleventh to eighth rank (indicating that healthier products accounted for a larger proportion of sales).

**Figure 12** Proportions of products meeting WHO SEAR criteria for marketing to children – foods (16 companies)



Again, a very low proportion of food products (12%) offered by the companies could be marketed to children using the WHO SEAR criteria. Just as with the overall product portfolio, Adani Wilmar and Emami Agrotech ranked highest in terms of proportion of products eligible to be marketed to children. Coca-Cola India, Mondelez India and Parle Products had 0% of food products eligible for marketing to children. Categories such as *Confectionery* and *Sweet biscuits, snack bars and fruit snacks* are not eligible for marketing irrespective of nutrient content, affecting the companies that make a large number of these products.

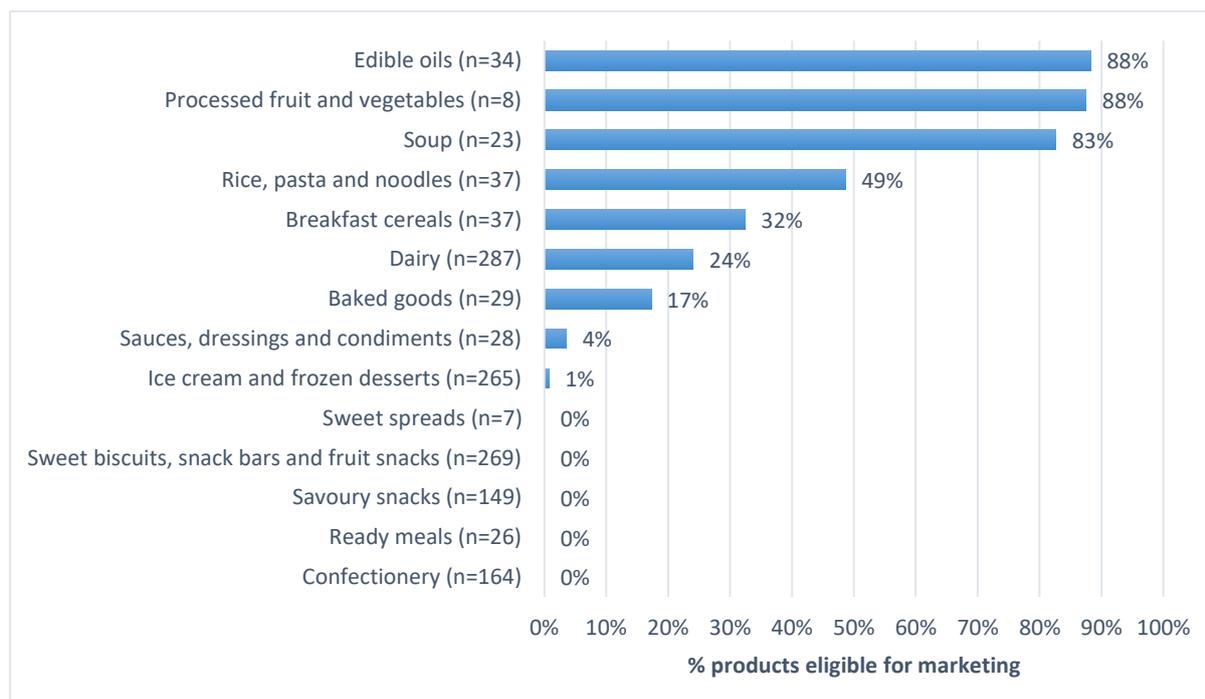
**Figure 13** Proportions of products meeting WHO SEAR criteria for marketing to children – beverages (4 companies)



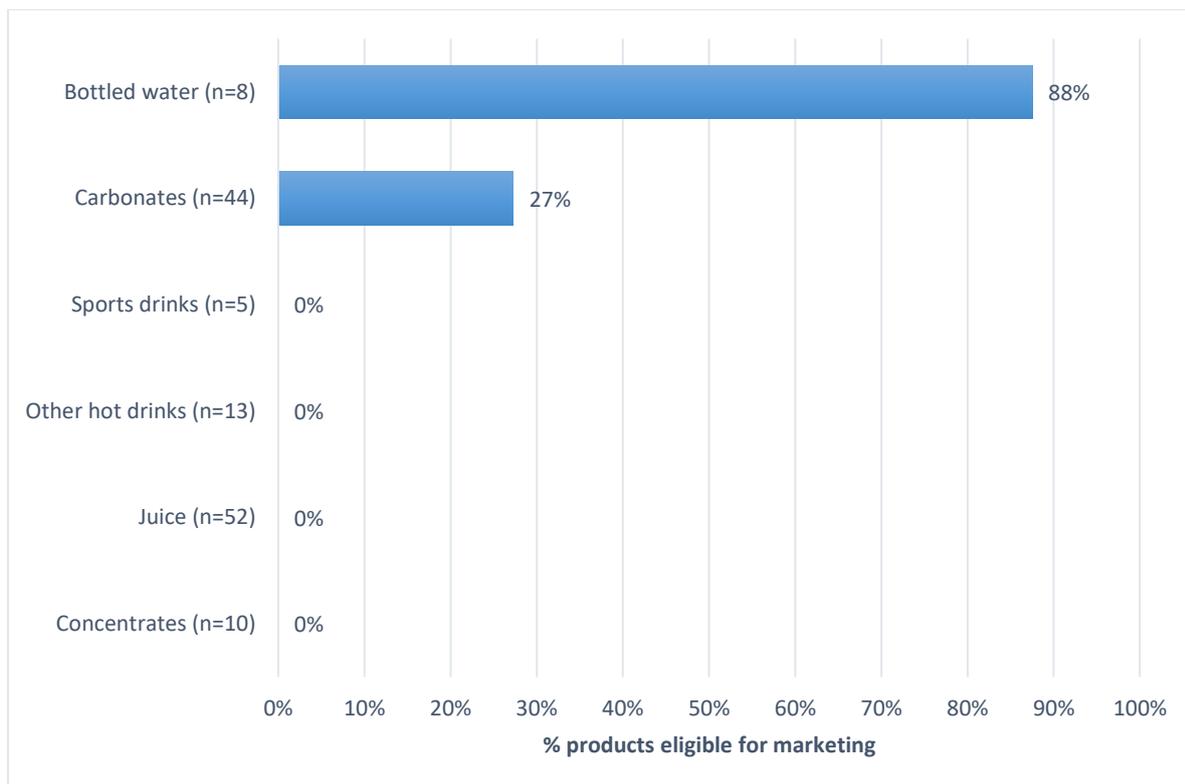
Results from beverages were slightly better overall than foods. Noting that results for milks are displayed as foods under Euromonitor International classifications, the only drinks eligible for marketing were bottled water and plain carbonated waters such as club sodas (sparkling waters). PepsiCo India had the highest proportion of beverage products eligible to be marketed to children. Mondelez India and Hindustan Unilever had zero beverage products eligible.

Note that these results do not imply that any of the companies marketed (or did not market) these products to children. Rather, the model provides a useful supplementary method to assess the healthiness of products.

**Figure 14** Proportions of products meeting WHO SEAR criteria for marketing to children by category - food



**Figure 15** Proportions of products meeting WHO SEAR criteria for marketing to children by category – beverages

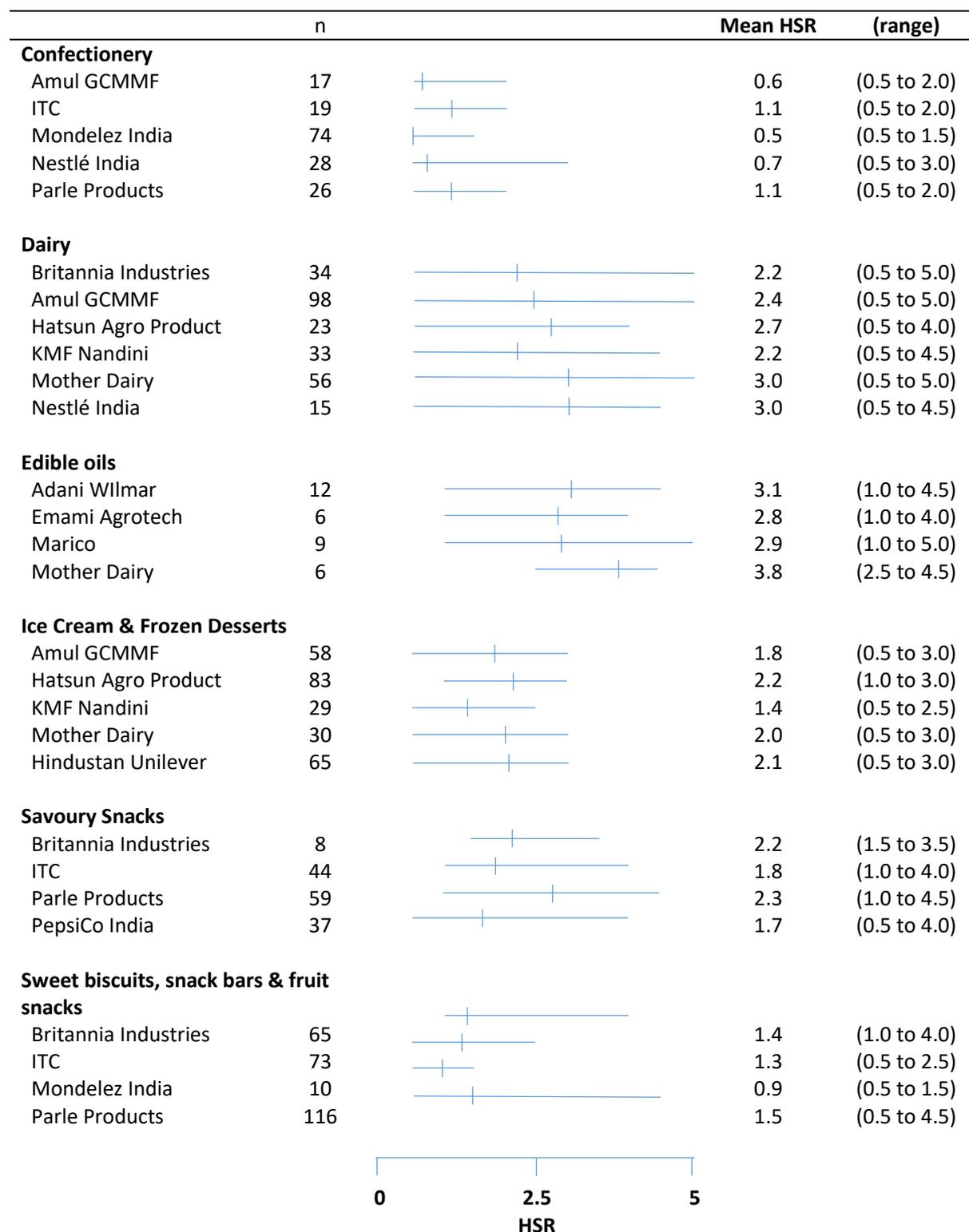


For the categories *Edible oils*, *Processed fruit and vegetables*, and *Bottled water*, 88% of products were eligible to be marketed to children using the WHO SEAR criteria. This is a slightly different finding to the HSR which found 100% of *Processed fruit and vegetables* and *Bottled water* would be considered “healthy”. Using this metric, five food categories and four beverage categories had zero products eligible to be marketed to children. This is a result of the WHO SEAR criteria excluding entire categories in its marketing guidelines, whereas the HSR uses a cut-off value.

## ANALYSIS 7 - Comparative nutritional quality of products in same subsets provided by different companies

To illustrate the variation between different companies in nutritional quality by EMI subset, subsets were selected that had at least three companies and a range of HSRs and have shown them in Figure 16 below. The mean HSR is illustrated by the short vertical line and the range of HSRs by the horizontal lines. Full results for all companies by category can be seen in [Appendix B](#).

**Figure 16** Mean and range of Health Star Ratings for selected EMI subsets



EMI subsets where there was a significant difference in the mean HSR of companies' products illustrate which companies have scope to reformulate their products. For example, Parle Product's *Savoury snacks* received 2.3 stars on average, above those of PepsiCo India (1.7) and ITC (1.8). A similar picture emerged with *Ice creams and frozen desserts* and *Edible oils*, for example. In other subsets such as *Confectionery*, companies' mean HSRs were similar, indicating consistency in the nutritional profile of products in these EMI subsets. However, this does not imply that all companies should not look to improve the nutritional quality of their products, especially where this mean is low overall.

Comparative nutritional quality of similar products can also be usefully illustrated by examining the subset mean and range HSR for all companies combined.

**Table 8** Mean and range HSR of food products by EMI subsets

EMI subset	Mean HSR	Range HSR	
FOODS	Baked goods	2.9	1.0 to 4.0
	Breakfast cereals	3.8	1.5 to 5.0
	Confectionery	0.7	0.5 to 3.0
	Dairy	2.5	0.5 to 5.0
	Edible oils	3.1	1.0 to 5.0
	Ice cream and frozen desserts	2.0	0.5 to 3.0
	Processed fruit and vegetables	4.6	3.5 to 5.0
	Ready meals	1.2	0.5 to 2.0
	Rice, pasta and noodles	2.9	1.0 to 4.0
	Sauces, dressings and condiments	1.6	0.5 to 3.5
	Savoury snacks	2.0	0.5 to 4.5
	Soup	3.2	3.0 to 3.5
	Sweet biscuits, snack bars and fruit snacks	1.4	0.5 to 3.0
	Sweet spreads	1.6	1.5 to 2.0

**Table 9** Mean and range HSR of beverage products by EMI subsets

EMI subset	Mean HSR	Range HSR	
BEVERAGES	Bottled water	5.0	5.0
	Carbonates	1.8	0.5 to 5.0
	Concentrates	1.1	0.5 to 1.5
	Juice	1.8	0.5 to 5.0
	Other hot drinks	0.8	0.5 to 5.0
	Sports drinks	1.5	1.5

As with results by company, the large range in HSR within some subsets such as *Ready meals* and *Savoury snacks* suggests that healthier formulations of these products can be made.

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## CONCLUSIONS AND INTERPRETATION

### Key findings

#### *Mean healthiness of products*

- The overall mean healthiness of companies' products was low (HSR=1.9 out of 5.0) and the mean healthiness of product portfolios varied substantially between companies (0.6 for Mondelez India to 3.1 for Adani Wilmar). Differences in mean healthiness between companies reflected primarily differences in product mix but also to a lesser extent differences in the healthiness of products within the same categories. Companies such as Mondelez India and Parle Products, which make primarily products such as confectionery and sweet biscuits, generally scored poorly in each metric examined, whereas companies that sold primarily edible oil products such as Marico and Adani Wilmar, and dairy products such as Mother Dairy, generally scored and ranked better.
- Estimates of the comparative healthiness of product portfolios weighted by sales changed some rankings and generally increased the disparities between companies. Some companies derived quite different proportions of their sales from healthy versus unhealthy products. For example, Britannia Industries and Hindustan Unilever's rankings decreased when sales-weighting of results was applied, indicating that a larger proportion of these companies' product sales were due to less healthy products. On the other hand, KMF Nandini and Nestlé India's rankings increased following sales-weighting, indicating that a larger proportion of their portfolio's sales were due to healthier products. Robust sales-weighted estimates will provide the best idea of the impact of a company's products on consumer health.
- Rankings of companies also varied depending upon whether the comparison was based upon all products, foods alone or beverages alone reflecting the importance of product mix in determining the average healthiness of the product portfolio.

#### *Proportions of products defined as healthy or eligible for marketing to children*

- The overall proportion of companies' products defined as healthy was low (16%). The proportion of products defined as healthy varied greatly between companies (1% for Mondelez India to 53% for Mother Dairy). Similar to results for overall mean healthiness, companies with portfolios dominated by products such as confectionery (e.g. Mondelez India) and sweet biscuits (e.g. Parle Products) scored poorly using this metric and those with portfolios dominated by dairy products (e.g. Mother Dairy) or edible oil products (Adani Wilmar, Emami Agrotech and Marico) scored better.
- Assessing the overall proportion of healthy products across all companies, the sales-weighted proportion of products with an HSR of 3.5 or above (27%) was higher than the unweighted proportion of products (16%). This can be attributed to companies that derive large revenues from a small number of healthy products, such as those selling edible oil products (Adani Wilmar and Emami Agrotech), or dairy products (Aavin TCMPPF). Estimates of the proportion of product portfolios considered "healthy" using the HSR weighted by sales changed some rankings quite dramatically. For example, PepsiCo India's ranking decreased from sixth to eleventh when sales-weighting of results was applied, indicating that a larger proportion of these companies' product sales resulted from products with an HSR of <3.5. On the other hand, Hatsun Agro Product's ranking increased following sales-weighting from twelfth to fourth, indicating that a larger proportion of their portfolio's sales were from products with an HSR>=3.5.
- The proportion of products eligible for marketing to children was also very low (12%), and lower than the proportion of products defined as 'healthy' using the HSR cut point (16%). Two companies (Mondelez India and Parle Products) had no products eligible for marketing to children according to the WHO SEAR criteria. This reflects the more stringent criteria applied for eligibility to market to children, as entire categories are ineligible under the WHO SEAR criteria, whereas the HSR uses a cut-point to determine healthiness. Similar to the sales-weighted proportion of products defined as 'healthy', the sales-weighted proportion of products eligible for marketing to children (29%) was higher than the unweighted proportion of products (12%). Overall, company rankings did not change dramatically when sales-weighting was applied using the WHO SEAR criteria. Only one company (Hatsun Agro Product) had a large increase in ranking (from eleventh to eighth) and one company (Hindustan Unilever) a decrease in ranking (from seventh to eleventh) using this metric.

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## Methodological limitations

The results of this research should be considered in relation to the following limitations:

**The limited nutrition data available.** The data available were in part insufficient to evaluate the nutritional value of the products according to established profiling methods because they are based on a larger number of nutrients than current Indian regulations require to be listed on packs. The problem was addressed by using proxy data unless several data points were missing. Where this was the case, products were excluded from analysis. Of note, no alternative nutrient profiling model has been identified that would make better use of the limited data available. The most likely impact of using proxy nutrient values is underestimation of the real differences between products (because proxy values were imputed at the sub-category level), and correspondingly, therefore, underestimation of the real differences between companies. For example, Aavin only had two products eligible for inclusion in the HSR analysis due to insufficient nutrient data available. Although the majority of Aavin dairy products provided information on energy content and total fat, most were missing nutrient information for saturated fat, sodium and total sugars. It was therefore not possible to get a clear picture of the healthiness of Aavin's portfolio compared to other companies.

**The absence of a complete list of all marketed products.** Listings of all products sold in India and their nutritional content were sought from the 16 companies but half of the companies included in analysis did not provide them. The solution was to compile listings based upon data extracted from the FoodSwitch India database and Innova Market Insight's product database. Each data source is likely to be incomplete but combining data from these two sources should have achieved reasonable coverage for all companies. It seems unlikely that incomplete data collection has resulted in significant biases in the results.

**Restriction of the analysis to 16 large companies.** The assessment of 16 of the largest food and beverage manufacturers was a pragmatic compromise designed to ensure feasibility and meaningful comparisons based upon the average nutritional composition of the majority of products made by each company. This strategy will not have affected the primary conclusions of the project about the relative nutritional quality of the products provided by the included companies but how the included companies compare to other smaller companies, artisanal/street food providers, quick service restaurants or home-cooked meals is unknown.

**Low degree of industry participation.** Half of the included companies elected not to engage in the research process despite being invited to do so by ATNI. Complete industry participation would have enabled more complete, up-to-date data and more reliable and informative analyses with reduced reliance on imputed values.

**Limitations of the nutrient profiling tools.** The HSR and WHO SEAR models are both still in early stages of implementation and subject to ongoing evaluation and refinement. While both are based upon extensive research and validation, there is continuing discussion of how each operates for some food categories. Those fruit juices that are '100% fruit juices', for example, are able to receive high HSRs despite being high in fruit sugar because they receive positive points for fruit content. By contrast, the WHO SEAR nutrient profile model deems juice not eligible to be marketed to children given its role as a significant source of free sugars for children regardless of other nutritional value.

**Differences in rankings.** The different methods of nutritional assessment of the product portfolio (mean HSR, proportion HSR $\geq$ 3.5 and proportion eligible for marketing to children) consistently identified Adani Wilmar and Mother Dairy as top ranked companies and Mondelez India and Parle Products as bottom ranked companies based upon the nutritional profiles of the overall product portfolio ([Appendix C](#)). For the companies ranking in between there was variation in the specific rankings assigned by each assessment method. This varied again with sales weighting. As such, the various profiling methods proved an effective way to discriminate between companies based upon the healthiness of products but did not give consistent findings. This is unsurprising given the different elements that contribute to each method and the similar mean scores of several companies for some measures. This latter observation means that there is the potential for changes in the scores of just a few products to switch around the positions of companies in the rankings.

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**No consideration of serving size.** Overweight and obesity can be influenced by the quantity of food people choose to consume at one sitting (portion size) and the serving size recommended on packs. This may be the case particularly for products provided in packages eaten at a single sitting (although not all such products have a serving size that corresponds to the package size). The association between serving size and portion size for products provided in packages that contain multiple servings is also not always strong. It has been argued that nutrient profiling models should include consideration of serving size but the absence of agreed national and international standards has meant that this has not proved possible to date.

**Limited granularity of sales data.** The 2018 sales data accessible from Euromonitor International are provided by category not by individual product. This limits the capacity to obtain robust sales-weighted estimates of metrics because it is not possible to precisely match a sales figure to an HSR value. Accordingly, for the overall sales-weighted results, the sales of the company within each category were matched to the mean HSR for all company products within that category. Erroneous results may have been generated because it is unlikely that sales volumes of every item sold by a company within a given category were the same. So, while the process should give a reasonable sales-weighted estimate of the mean healthiness of products, it is imperfect. Similarly, the sales-weighted results relating to sales of healthy products and sales of products eligible to be marketed to children are estimates, as it is unlikely that the proportion of sales of healthy products or those eligible to be marketed to children in any category is directly proportional to the total sales of that category.

### **Recommendations for companies**

- Companies need to direct investment towards improving the healthiness of their products both by changing the mix of products sold and reformulating unhealthy products to improve their nutritional quality.
- Companies need to increase the proportion of sales deriving from healthy foods and decrease their reliance on sales of unhealthy foods. One way this can be done is by redirecting their marketing to healthier products.
- Reformulation should be a priority, particularly for established brands and market-leading products unlikely to be discontinued. Companies have a particular opportunity to improve the nutritional quality of products that play a large part in children's diets to ensure that they are suitable for them and can therefore be marketed to them.

### **Recommendations for the Government of India**

- The small number of products eligible for marketing to children under the WHO SEAR nutrient profile model is indicative of the unhealthy nature of many of the products offered by the largest food and beverage companies in India. There is an urgent need for effective and enforceable legislation that prevents the marketing of unhealthy products to children.
- Nutrition labelling requirements need to be strengthened to include, at a minimum, an additional requirement for labelling of sodium/salt as recommended by the Codex Guidelines on Nutrition Labelling (recognising the recently introduced requirements to label saturated fat and trans fat). Growing consumer interest in added sugar content has recently led countries such as the United States to require added sugar content in the on-pack nutrient declaration; India could consider a similar step in future legislative reform.
- Compile and maintain a comprehensive list of the nutrient content of all packaged food products such that necessary action to reformulate products can be identified, targets set and progress monitored.
- A government-led national program should be implemented with haste to address the poor nutritional quality of many of the products made by the leading food and beverage manufacturers in the Indian market.

## APPENDIX A – EMI subsets mapped to HSR Categories

The following table is provided to assist interpretation of results where products are categorised differently for the purpose of generating a nutrient profile outcome under the Health Star Rating to how these results are displayed in the analysis in this report.

**Table 10** Euromonitor International food and beverage subsets mapped to Health Star Rating Categories

1. Non-dairy beverage	1D. Dairy Beverage	2. Non-Dairy Foods	2D. Dairy foods	3. Oils and spreads	3D. Cheese
<b>Beverages</b>	<b>Foods</b>				
Carbonates Hot beverages Juices Concentrates Sports drinks Bottled water	Dairy (drinking milks only)	Baked goods Breakfast cereals Confectionery Ice cream and frozen desserts* Processed fruit and vegetable products Ready meals Rice, pasta and noodles Savoury snacks Soup Sweet spreads Sweet biscuits, snack bars and fruit snacks Sauces, dressings and condiments	Dairy (including cheese products not in category 3D)*	Edible oils	Dairy (high calcium cheese products)**

\* Custards, desserts, cream cheese, ice-cream and cream are not considered as dairy foods but are classified as Category 2 foods for the purpose of HSR. For further explanation see the HSR Guide for Industry <http://healthstarrating.gov.au/internet/healthstarrating/publishing.nsf/Content/guide-for-industry-document>

\*\* Defined for the purposes of HSR as cheeses with calcium content  $\geq 320\text{mg}/100\text{g}$

## APPENDIX B – Results by category for each company

**Table 11** Summary results by category for each company (16 companies)

Aavin TCMPF						
EMI subset	No. products HSR	Mean HSR (*sales weighted HSR)	HSR range	%>=3.5 HSR (*sales-weighted)	No. products WHO	% eligible for marketing (*sales-weighted)
Dairy	2	2.3	0.5 - 4.0	50%	17	6%
<b>Total</b>	<b>2</b>	<b>2.3 (*2.3)</b>	<b>0.5 - 4.0</b>	<b>50% (*50%)</b>	<b>17</b>	<b>6% (*6%)</b>
Adani Wilmar						
EMI subset	No. products HSR	Mean HSR (*sales weighted HSR)	HSR range	%>=3.5 HSR (*sales-weighted)	No. products WHO	% eligible for marketing (*sales-weighted)
Edible oils	12	3.1	1.0 - 4.5	50%	13	92%
<b>Total</b>	<b>12</b>	<b>3.1 (*3.1)</b>	<b>1.0 - 4.5</b>	<b>50% (*50%)</b>	<b>13</b>	<b>92% (*92%)</b>
Amul GCMMPF						
EMI subset	No. products HSR	Mean HSR (*sales weighted HSR)	HSR range	%>=3.5 HSR (*sales-weighted)	No. products WHO	% eligible for marketing (*sales-weighted)
Confectionery	17	0.6	0.5 - 2.0	0%	17	0%
Dairy	98	2.4	0.5 - 5.0	34%	100	16%
Ice cream and frozen desserts	58	1.8	0.5 - 3.0	0%	58	2%
<b>Total</b>	<b>173</b>	<b>2.0 (*2.3)</b>	<b>0.5 - 5.0</b>	<b>19% (*31%)</b>	<b>175</b>	<b>10% (*15%)</b>
Britannia Industries						
EMI subset	No. products HSR	Mean HSR (*sales weighted HSR)	HSR range	%>=3.5 HSR (*sales-weighted)	No. products WHO	% eligible for marketing (*sales-weighted)
Baked goods	29	2.9	1.0 - 4.0	62%	29	17%
Dairy	34	2.2	0.5 - 5.0	12%	34	9%
Savoury snacks	8	2.2	1.5 - 3.5	13%	8	0%
Sweet biscuits, snack bars and fruit snacks	65	1.4	0.5 - 3.0	0%	65	0%
<b>Total</b>	<b>136</b>	<b>2.0 (*1.8)</b>	<b>0.5 - 5.0</b>	<b>17% (*13%)</b>	<b>136</b>	<b>6% (*3%)</b>

<b>Coca-Cola India</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Bottled water	5	5.0	5	100%	5	80%
Carbonates	27	1.7	0.5 - 5.0	11%	27	15%
Dairy	2	3.5	3.5	100%	2	0%
Juice	30	1.3	0.5 - 5.0	10%	33	0%
Sports drinks	1	1.5	1.5	0%	5	0%
<b>Total</b>	<b>65</b>	<b>1.8 (*1.9)</b>	<b>0.5 - 5.0</b>	<b>20% (*19%)</b>	<b>72</b>	<b>11% (*16%)</b>
<b>Emami Agrotech</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Edible oils	6	2.8	1.0 - 4.0	33%	6	83%
<b>Total</b>	<b>6</b>	<b>2.8 (*2.8)</b>	<b>1.0 - 4.0</b>	<b>33% (*33%)</b>	<b>6</b>	<b>83% (*83%)</b>
<b>Hatsun Agro Product</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Dairy	23	2.7	0.5 - 4.0	48%	23	30%
Ice cream and frozen desserts	83	2.2	1.0 - 3.0	0%	83	1%
<b>Total</b>	<b>106</b>	<b>2.3 (*2.6)</b>	<b>0.5 - 4.0</b>	<b>10% (*41%)</b>	<b>106</b>	<b>8% (*26%)</b>
<b>Hindustan Unilever</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Concentrates	6	1.5	1.5	0%	6	0%
Ice cream and frozen desserts	65	2.1	0.5 - 3.0	0%	65	0%
Sauces, dressings and condiments	19	1.6	0.5 - 3.5	5%	19	5%
Soup	23	3.2	3.0 - 3.5	39%	23	83%
Sweet spreads	7	1.6	1.5 - 2.0	0%	7	0%
<b>Total</b>	<b>120</b>	<b>2.2 (*2.0)</b>	<b>0.5 - 3.5</b>	<b>8% (*6%)</b>	<b>120</b>	<b>17% (*12%)</b>

<b>ITC</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Confectionery	19	1.1	0.5 - 2.0	0%	19	0%
Ready meals	26	1.2	0.5 - 2.0	0%	26	0%
Rice, pasta and noodles	21	2.8	1.0 - 4.0	57%	21	38%
Savoury snacks	44	1.8	1.0 - 4.0	7%	45	0%
Sweet biscuits, snack bars and fruit snacks	73	1.3	0.5 - 2.5	0%	77	0%
<b>Total</b>	<b>183</b>	<b>1.5 (*1.6)</b>	<b>0.5 - 4.0</b>	<b>8% (*11%)</b>	<b>188</b>	<b>4% (*6%)</b>
<b>KMF Nandini</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Dairy	33	2.2	0.5 - 4.5	30%	33	36%
Ice cream and frozen desserts	29	1.4	0.5 - 2.5	0%	29	0%
<b>Total</b>	<b>62</b>	<b>1.8 (*2.2)</b>	<b>0.5 - 4.5</b>	<b>16% (*30%)</b>	<b>62</b>	<b>19% (*36%)</b>
<b>Marico</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Breakfast cereals	32	3.7	1.5 - 5.0	69%	32	34%
Edible oils	9	2.9	1.0 - 5.0	33%	9	78%
<b>Total</b>	<b>41</b>	<b>3.5 (*2.9)</b>	<b>1.0 - 5.0</b>	<b>61% (*35%)</b>	<b>41</b>	<b>44% (*76%)</b>
<b>Mondelez India</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Concentrates	4	0.5	0.5	0%	4	0%
Confectionery	74	0.5	0.5 - 1.5	0%	74	0%
Other hot drinks	13	0.8	0.5 - 5.0	8%	13	0%
Sweet biscuits, snack bars and fruit snacks	10	0.9	0.5 - 1.5	0%	10	0%
<b>Total</b>	<b>101</b>	<b>0.6 (*0.5)</b>	<b>0.5 - 5.0</b>	<b>1% (*1%)</b>	<b>101</b>	<b>0% (*0%)</b>

<b>Mother Dairy</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Dairy	56	3.0	0.5 - 5.0	54%	62	39%
Edible oils	6	3.8	2.5 - 4.5	67%	6	100%
Ice cream and frozen desserts	30	2.0	0.5 - 3.0	0%	30	0%
Processed fruit and vegetables	7	4.6	3.5 - 5.0	100%	8	88%
<b>Total</b>	<b>99</b>	<b>2.8 (*3.0)</b>	<b>0.5 - 5.0</b>	<b>41% (*53%)</b>	<b>106</b>	<b>35% (*44%)</b>
<b>Nestlé India</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Confectionery	28	0.7	0.5 - 3.0	0%	28	0%
Dairy	15	3.0	0.5 - 4.5	60%	15	40%
Rice, pasta and noodles	16	3.0	2.5 - 3.5	25%	16	69%
Sauces, dressings and condiments	9	1.7	1.0 - 2.5	0%	9	0%
<b>Total</b>	<b>68</b>	<b>1.9 (*2.4)</b>	<b>0.5 - 4.5</b>	<b>19% (*29%)</b>	<b>68</b>	<b>25% (*40%)</b>
<b>Parle Products</b>						
<b>EMI subset</b>	<b>No. products HSR</b>	<b>Mean HSR (*sales weighted HSR)</b>	<b>HSR range</b>	<b>%&gt;=3.5 HSR (*sales-weighted)</b>	<b>No. products WHO</b>	<b>% eligible for marketing (*sales-weighted)</b>
Confectionery	26	1.1	0.5 - 2.0	0%	26	0%
Savoury snacks	59	2.3	1.0 - 4.5	12%	59	0%
Sweet biscuits, snack bars and fruit snacks	116	1.5	0.5 - 3.0	0%	117	0%
<b>Total</b>	<b>201</b>	<b>1.6 (*1.6)</b>	<b>0.5 - 4.5</b>	<b>3% (*2%)</b>	<b>202</b>	<b>0% (*0%)</b>

PepsiCo India						
EMI subset	No. products HSR	Mean HSR (*sales weighted HSR)	HSR range	%>=3.5 HSR (*sales-weighted)	No. products WHO	% eligible for marketing (*sales-weighted)
Bottled water	3	5.0	5	100%	3	100%
Breakfast cereals	5	4.0	2.0 - 5.0	80%	5	20%
Carbonates	17	1.8	0.5 - 5.0	12%	17	47%
Juice	19	2.5	0.5 - 5.0	37%	19	0%
Savoury snacks	37	1.7	0.5 - 4.0	3%	37	0%
<b>Total</b>	<b>81</b>	<b>2.2 (*2.1)</b>	<b>0.5 - 5.0</b>	<b>21% (*18%)</b>	<b>81</b>	<b>15% (*32%)</b>

## APPENDIX C - Comparative rankings of companies based upon the different evaluation methods

**Table 13** Ranking of companies based upon overall product portfolio (16 companies)

	Mean HSR	Sales weighted mean HSR	Proportion healthy i.e. products $\geq 3.5$ and above	Sales from healthy products	Meet WHO SEAR criteria	Sales from products meeting WHO SEAR criteria	Overall score
Aavin TCMPF	6	8	3	3	13	13	46
Adani Wilmar	2	1	2	2	1	1	9
Amul GCMF	9	7	9	7	10	10	52
Britannia Industries	10	13	10	12	12	14	71
Coca-Cola India	12	12	7	10	9	9	59
Emami Agrotech	4	4	5	6	2	2	23
Hatsun Agro Product	5	5	12	4	11	8	45
Hindustan Unilever	7	11	13	14	7	11	63
ITC	15	15	14	13	14	12	83
KMF Nandini	13	9	11	8	6	6	53
Marico	1	3	1	5	3	3	16
Mother Dairy	3	2	4	1	4	4	18
Mondelez India	16	16	16	16	=15	=15	64
Nestlé India	11	6	8	9	5	5	44
Parle Products	14	14	15	15	=15	=15	58
PepsiCo India	8	10	6	11	8	7	50

= equal ranking

The table above demonstrates the comparative ranking of companies across the different analysis methods used. Where a company ranked last (of the 16 companies) it received 16 points, and so a lower score indicates a healthier overall product profile ranking.