

Classification of Processed Foods: Opportunities and Gaps

Discussion Paper

Key Messages

- **There has been a global shift towards increased consumption of processed foods.** This has been driven by several factors including growing demand due to changing lifestyles; actions taken by large food manufacturers in product design, pricing, marketing, and distribution; and government policies and subsidies.
- **The increased consumption of ultra- or highly processed food is associated with adverse health outcomes, such as type 2 diabetes, hypertension, cardiovascular disease, depression and a higher risk of all-cause mortality.**
- **There is no global consensus on the classification of foods in terms of processing levels in both the policy and investment space.** The Nova classification system is the most widely used in research and recognized by several international organizations, yet it is widely acknowledged that it has considerable limitations for practical application.
- **Policy makers and investors are rightly paying more attention to the issue of processed food, discouraging the consumption of highly processed foods.** This in turn is driving new opportunities for food companies to reverse or re-engineer products so that the less processed versions still deliver the benefits but not the health risks of highly processed foods.
- **ATNI will closely follow new evidence on health outcomes and the development of practical classification systems of food processing for integration into our methodology.** This will improve the utility of our research so that investors and policymakers can better contribute to healthier food environments.





Introduction

There has been a global shift towards increased consumption of foods and beverages (hereafter “foods”) that have been processed to varying degrees beyond the level needed to ensure food safety and feasibility for use by consumers in home food preparation. High-quality cohort studies have consistently shown that increased consumption of ultra- or highly processed foods has a significant adverse impact on health through increasing risks of obesity, cardiovascular diseases, and all-cause mortality.¹ The global shift towards increased consumption of processed foods is concurrent with the rising prevalence of obesity, which has doubled among adults and quadrupled among adolescents since 1990,² and other nutrition-related chronic diseases.³

In line with ATNI's mission to transform markets to deliver healthy, sustainable diets for all, it is imperative to understand and address these rising public health concerns related to the supply of processed foods and their consumption. Moreover, the practical benefits of food processing should also not be ignored: certain types of processing enable foods to be produced cost-effectively and at scale, and distributed and stored more easily, safely, and for significant longer periods of time. As the world's population grows while simultaneously threatened by climate change and the increased risks of pandemics, these attributes should be considered when addressing food and nutrition security.

However, there remains a heterogeneity and subjectivity in the scientific literature related to the terminology and classifications used for processed foods. Therefore, this discussion paper summarizes the various issues requiring resolution to arrive at a better food processing classification system. This in turn can accelerate discourse and actions to improve the healthiness of food products and food environments.

ATNI already has in place tools – such as its [Indexes](#) – which provide key findings related to many aspects of the manufactured foods landscape. ATNI now aims to provide insights that contribute to the global debate on highly processed foods as marketed worldwide.

Detailed information on the supply of highly processed foods globally and at country level is currently scarce. Once available -- and based on a suitable approach to classifying the level and type of processing -- such data could inform future research, public health interventions, and policies. Until then, ATNI will continue to shape markets so that manufacturers are incentivized to develop products that meet criteria that are more favorable from a health perspective, and maintain the benefits of taste, safety, shelf-life, and nutritional quality while remaining profitable.

NB: This discussion paper uses “processed” to refer to foods with any amount of processing, “ultra-processed” refers to foods that fit under Group Four in the Nova classification⁴, and finally “highly processed” is used when the specific classification system in the literature is different, unclear or when systems are used interchangeably.



Problem Analysis

Overview of current food processing classification systems

The definition of food processing varies widely depending on the source ranging from ‘any action or procedure that changes the initial food or raw materials used to produce food (such as crops, water, etc.)⁵ to ‘altering food from its natural state.’⁶ A scientific review by the Institute of Food Technologists shows processing may involve washing, cleaning, milling, cutting, chopping, heating, pasteurizing, blanching, storing, filtering, fermenting, extracting, concentrating, microwaving, cooking, canning, freezing, drying, dehydrating, mixing, packaging, or other procedures that alter the food from its natural state.⁷ The food may include the addition of other ingredients such as preservatives, flavors, nutrients and other food additives or substances approved for use in food products, such as salt, sugars, and fats.

According to these standards, virtually all foods sold in the supermarket would be classified as “processed” to some degree. Because food begins to deteriorate and lose nutrients as soon as it is harvested, even fruits such as apples in stores undergo processing steps before being sold to the consumer. That is why in practice, it is helpful to differentiate between the various degrees of food processing.

Food processing therefore serves multiple functions. It can make inedible raw materials or foods edible, digestible, and safe for consumption. It can enhance taste and texture for better palatability. It may also increase overall convenience in distribution, storage, consumption, and preparation. It can help reduce food waste, and increase access to affordable nutrition.

However, foods classified as highly processed foods or ultra-processed foods often contain high levels of calories, saturated fat, salt, or free sugars, additives and low levels of fruits, vegetables, and fiber. As a result, these foods are often energy-dense and nutritionally unbalanced.⁸ Emerging evidence suggests that the consumption of ultra- or highly processed foods contributes to the obesity epidemic and is associated with a higher prevalence of chronic diseases, such as heart disease and diabetes.^{1,9}

To date, there is no scientific consensus on appropriate ways to define and classify foods based on the level of processing. The most recent review of the different systems is the 2023 review by the UK SACN which identified eight different systems developed to group foods by their level of processing to classify processed foods.¹⁰ These different classification systems were mostly created to study the relationship between packaged food and beverage products and health.⁵ Table 1 provides an overview of the main food classification systems based on processing.



Table 1. Overview of food processing classification systems.^{5,10}

System origin/title	Intended purpose	Classification basis	Source
da Costa Louzada	Research / epidemiology	According to features: ingredients; home-made vs. industrially prepared; food vs. industrial ingredients; if additives are added.	da Costa Louzada et al., 2015 ¹¹
International Agency for Research on Cancer (IARC) / European Prospective Investigation into Cancer and Nutrition (EPIC)	Research / epidemiology	According to food group, based on the degree of processing and features: raw vs. prepared; home-made vs. industrially prepared; staple food.	Slimani et al., 2009 ¹²
International Food Information Council (IFIC)	Research / epidemiology / communication	According to three levels, based on features: preservation of properties; level of preparation; level of convenience.	Eicher-Miller et al., 2012 ¹³
International Food Policy Research Institute (IFPRI) in Guatemala	Research / epidemiology	According to three levels, based on the degree of processing.	Asfaw, 2011 ¹⁴
Mexican National Institute of Public Health (MNIPH)	Research / epidemiology	According to level of processing, based on features: traditional vs. modern foods; non-industrialized vs. industrialized foods; locally made; unprocessed.	Moubarac et al., 2014 ¹⁵
Nova	Research / epidemiology / dietary guidelines	According to four levels, based on the degree of processing and purpose: natural vs. industrial; whole foods vs. fractioned substances; recognizable as food; number of ingredients; addition of fat/sugar/salt; additives; home-made vs. industrially prepared; stimulate overconsumption.	Monteiro et al. 2019 ⁴
The Siga Index	Product development / consumer guidance	According to the nature, quantity, function, and degree of transformation of the ingredients and/or additives, based on features: matrix preservation, addition of fat/sugar/salt; industrial ingredients; number of ingredients; additives; stimulate overconsumption.	Fardet, 2018 ¹⁶
Modified Nova in combination with HFSS criteria	Policy	According to elements of the Nova criteria combined with criteria for foods high in saturated fat, salt and sugar (HFSS).	Popkin et al. 2024 ¹⁷



Despite the lack of a universally agreed definition of processed food, the Nova classification developed in Brazil by Monteiro and his research group in 2009⁴ is the most widely used system worldwide by researchers to investigate the association between processed food consumption and health outcomes, particularly obesity.^{10,15} The majority of published evidence in the area of food processing and health makes use of the Nova classification.¹ In addition, the approach has been used to define ‘ultra-processed products’ in a report commissioned by the Pan American Health Organization (PAHO)⁸ and in a data collection guideline by FAO, of which the latter also refers to the IARC/EPIC classification system.¹⁸ Recently, a research group also proposed to combine elements of the Nova criteria with criteria for foods high in HFSS for policy use.¹⁷

The Nova classification categorizes foods by the extent and purpose of industrial processing, not their nutritional quality. It includes four groups (Figure 1), based on the extent and purpose of industrial processing ranging from unprocessed/minimally processed foods to processed and the highest category labelled “ultra-processed foods” (UPFs). According to Monteiro et al., 2019⁴, an ultra-processed product can be identified if it contains at least one item characteristic of the Nova ultra-processed food group. This includes either food substances never or rarely used in kitchens (for example high-fructose corn syrup, or hydrogenated oils etc.), or classes of additives designed to make the final product palatable or more appealing (such as flavours, flavours enhancers, colours, emulsifiers, etc.). Although the difficulty to distinguish between Group Three and Four is considered a limitation by some, best practices to assign products in a consistent manner to one of the four groups are documented.¹⁹

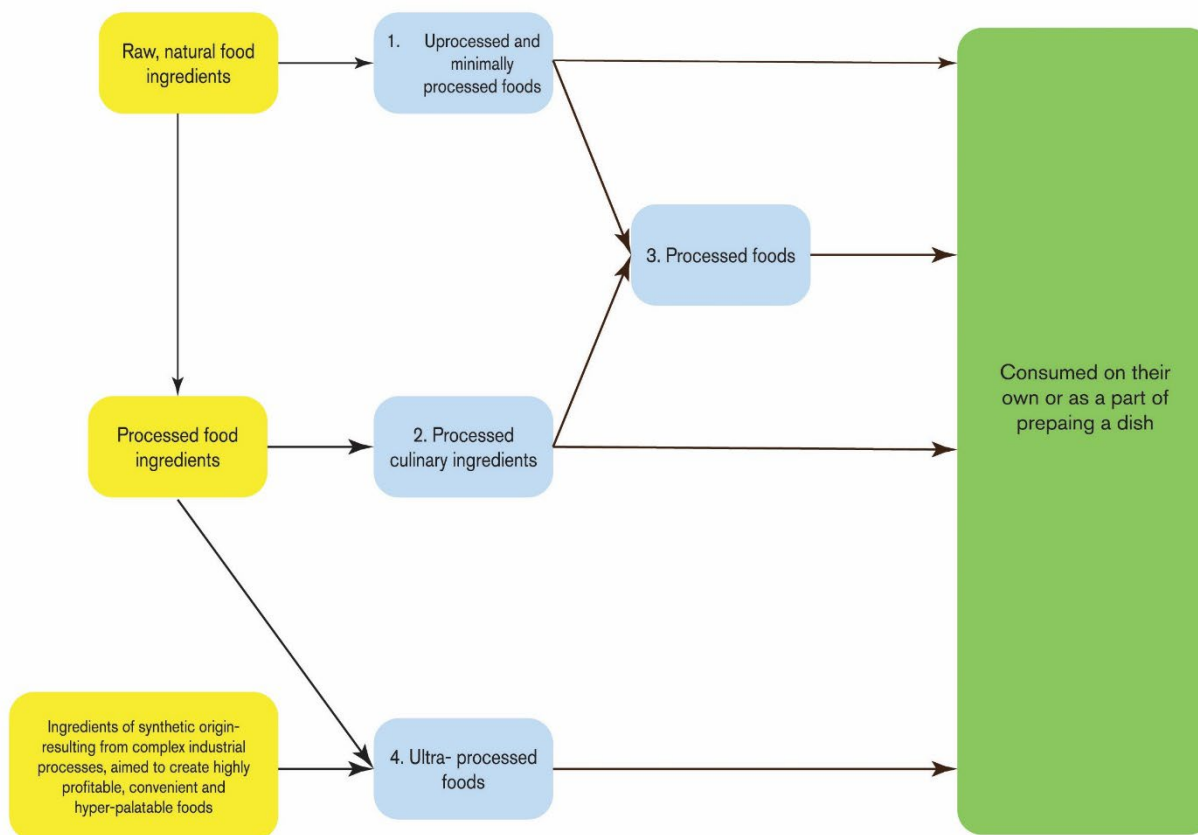


Figure 1: A graphical depiction of the Nova classification as introduced by Monteiro and colleagues.²⁰ Figure adapted from TABLE and Food Climate Research Network.²¹

Nova is the only system which the UK SACN found to meet the following five pre-agreed screening criteria: 1) Can the classification system be applied to a UK population?; 2) Is there a clear 'useable definition' of the classification system (as provided in studies)?; 3) Has the classification system been published as used by more than one research group?; 4) Is data available on inter-assessor reliability when applying the classification system?; and 5) Has the classification system been used to evaluate health outcomes?]

It is important to note that several existing nutrient profiling models consider levels of processing. For example, the nutrient profile model used by the WHO Regional Office for Europe, treats processed meat products differently from fresh meats, and the same for processed fruit and vegetables versus fresh fruit and vegetables.

Limitations of Nova and other existing classification systems of processed foods

The existing food processing classification systems tend to be reliant on several subjective concepts such as "home-made", "industrially prepared", "hyperpalatability" or "natural".⁵ This poses challenges, as various users may interpret these concepts differently. Current classification systems also generally do



not consider nutritional content of specific products or known associations between specific processed foods and health (for example processed meat and cancer).²²

In addition, classification systems tend to treat different food attributes differently. For example, the Nova classification classifies all rice as Group One (unprocessed and minimally processed foods), while the Poti classification system separates whole grain rice but still classifies all rice as “less processed”, and the IARC-EPIC classifies “white boiled rice” as highly processed. Another difference between systems is the categorization of processing methods. For example, the IARC-EPIC classification categorizes processes such as pasteurization, fermentation, smoking, curing and salting as highly processed, while Nova classifies these as minimally processed or processed.⁵

Critics of the Nova classification also highlight the highly heterogeneous nature of the foods that fall into the ultra-processed category, as well as the many differences in consumption patterns across regions.²³ For example, many foods that are typically viewed as ‘healthy in local dietary guidelines’, such as whole grain breads, would be classified as ultra-processed if produced industrially. Meanwhile food processing that can serve critical public health functions, such as micronutrient fortification, could result in processed products being defined as ultra-processed. Companies should be encouraged and helped to identify opportunities/ pathways to reverse or re-engineer products so that the less processed varieties still deliver the benefits but not the health risks of ultra- or highly processed foods.

As highlighted by SACN, there is a potential for confounding as it is still unclear to what extent observed associations between (highly) processed foods and adverse health outcomes are explained by established relationships between nutritional factors and health outcomes.

Debates on existing classification systems of processed foods and unanswered questions

Several scientific debate series on the usefulness of the concept of “ultra-processed foods” have not reached consensus.²⁴ For example, the 2022 series, ‘Great Debates in Nutrition,’ in the American Journal of Clinical Nutrition published, ‘Does the Concept of Ultra-Processed Foods Help Inform Dietary Guidelines, Beyond Conventional Classification Systems?’^{23,25} The participants in this debate agree that food processing vitally affects human health, and that the extent of food processing significantly affects diet quality and health outcomes. However, they disagree on the significance of ultra-processing, as defined within the Nova classification system. Similarly, contributors in the UK TABLE’s January-March 2024 letterbox series on the question ‘Is the Ultra-processed Food (UPF) concept useful, and for what goals?’ do not reach consensus. However, the exchange concludes with several important open questions:²⁴

1. Is disparagement, even to the point of “demonization”, of certain food choices intrinsic to Nova classification and the UPF terminology? Or is that disparagement a case of misuse of the framework, something to which all nutrition classifications might be subject, and responsibility sits with advocates and media?
2. Subjectivity in classification is less of a barrier to political analysis: how can Nova-informed political analysis support food system transformation or improvement?



3. All agree the burden of responsibility for change away from highly processed diets should not fall on (vulnerable) consumers: does Nova as a tool support or obstruct this aim?
4. Industry and policy initiatives that draw on single nutritional classifications without reference to their role in wider health goals can be distorting or counter-productive: is Nova more or less available to this than other classifications?
5. Does Nova's relevance change with geography and associated regulatory environments?

It is important that these questions are addressed so that greater scientific alignment on classification systems for food processing can be achieved.

Consumption trends: challenges and opportunities for companies

Ultra-processed foods have been rapidly replacing unprocessed or minimally processed foods in people's diets worldwide, as well as traditional cooking practices.²⁶ Initially limited to a handful of products like margarine or soft drinks before the mid-20th century, ultra processed foods now constitute at least half of the total calorie intake in the United States,²⁷ UK,²⁸ and Canada.^{29,30} In other high- and middle-income countries, ultra-processed foods contribute to about 20-40% of total calories consumed.^{26,31, 32} Similarly, highly processed foods also constitute an increasing proportion of people's diets in many low- and lower-middle-income countries, with the more processed foods comprising between 31% and 65% of the value of urban households' food baskets in Ethiopia, Uganda, Tanzania, Mozambique, and Malawi (based on 2001-11 data using three levels of processing);^{33,34} and between 17.7% and 36.7% in Bangladesh, Indonesia, Nepal, and Vietnam (based on 2010 data and using five levels of processing³⁵), for example.³⁶

Sales volumes of ultra-processed foods experienced a rapid compound annual growth rate, varying from around 1% per year in high-income countries to 10% in middle-income countries, between 1998 and 2012.^{26,37} Over a period of 15 years (2002-2016), the volume sales of ultra-processed foods increased by 67.3% in South and Southeast Asia, 57.6% in North Africa and the Middle East, while the volume sales of ultra-processed drinks rose by 120% in South and Southeast Asia and by 70.7% in Africa.³⁸

The growth of the manufactured food industry and increasing availability and promotion of foods that fit under the definition of "highly processed" is driven by several factors including changing lifestyles; strategic actions by large food manufacturers in product design, pricing, marketing, and distribution; and government policies and subsidies.³⁹ Meanwhile large food manufacturers, through the design, manufacture, and pricing of such products, coupled with extensive marketing and distribution efforts, have also contributed significantly to this dietary transition. And as these foods are typically sold by large, listed food companies, the increase in prevalence of these foods in diets around the world has delivered returns to their investors.

Further research is needed to uncover what steps food and beverage manufacturers should take to reformulate their highly- or ultra-processed foods to improve impact on the nutritional quality and health of the population. This will require a better biological understanding of how certain food



components directly impact health.¹ A good example of such a food component is transfat. Between 1990-2015 transfat intake was proven to increase the risk of cardiovascular diseases. In 2019, large food and beverage companies committed to eliminate industrially processed trans-fatty acids (iTFA) from the global food supply, in line with the WHO recommendations. Monitoring by ATNI for WHO in 2023 showed all food manufacturers assessed made progress towards reducing iTFA content in products to levels in line with the World Health Organization (WHO) recommendation reinforcing that reformulation and replacement of harmful iTFA in food products is feasible.^{40,41}

Highlights of evidence for associations of food processing with health outcomes

Despite the potential advantages of processing mentioned earlier including affordability, palatability, convenience, safety and stability, a growing number of systematic reviews, mixed observational studies including cohort studies, consistently link ultra-processed food consumption with adverse health outcomes.^{1,9} A higher consumption of ultra-processed food has been associated with unhealthy dietary patterns,^{29,42,43} overweight and obesity,⁴⁴⁻⁴⁷ chronic non-communicable diseases (including type 2 diabetes, hypertension, cardiovascular disease and cancers),^{44,48-51} depression,^{44,52-54} and mortality risk (including all-cause mortality, CVD-cause mortality, heart-cause mortality and cancer-cause mortality).^{44,51,52,55-58} While not all studies adjusted for the intake of other dietary or nutritional components,¹⁰ a review of cohort studies that report associations between ultra-processed food consumption and health-related outcomes found that the majority of the associations remained significant and unchanged after adjusting for diet quality or pattern.⁵⁹

While a substantial body of evidence exists, it predominantly relies on cohort studies and cross-sectional studies. It should also be noted that in the documentation of these studies it is not always clear which classification system is used, and how products are precisely assigned. Although Nova is commonly referenced, the absence of detailed classification information often hinders the ability to draw accurate conclusions and make direct comparisons.

Hall and colleagues conducted the first randomized controlled trial (RCT), investigating the effect of ultra-processed food consumption among 20 adults. The study showed an increase of ~500 kcal/day in energy intake on the ultra-processed versus unprocessed diet, strongly associated with weight gain.⁶⁰ These findings need to be replicated in larger RCTs to confirm the negative health effects of highly processed foods and provide insights in the mechanisms involved.

At the time of writing, 17 intervention studies are ongoing (n=13) or starting soon (n=4), with a registration on ClinicalTrials.gov (April 2, 2024) linked to “ultra-processed food”. These studies aim to determine the effect of consumption of ultra-processed food on awareness (n= 3) (e.g., effect of labeling and education); mental health (n=4) (e.g., depression, anxiety, stress, and sleeping quality); behavior (n= 6) (e.g., consumption, physical activity, eating rate, and indicators of reward responses, as craving, palatability, hedonic hunger, and mood); microbiome (n=3) (e.g. gut microbial composition and function, intestinal inflammation); and vascular health and metabolic response (n=8) (e.g., energy intake, energy expenditure, body composition, glucose levels, insulin levels, triglyceride levels, cholesterol levels, leptin and ghrelin levels, and inflammatory cytokines). Most studies are proof-of-



concept studies with 15 to 50 participants (n=10), while some are larger trials including between 50 and 100 participants (n=2) or 150 to 400 participants (n=4), and one exception of an intervention study, collecting only survey data, including 4000 participants (n=1).

Current and potential policy applications of food processing classifications

Few countries' policies or dietary guidelines directly refer to ultra-processed foods.^{61–63} A recent analysis of national dietary guidelines found that 106 national dietary guidelines refer to the level of food processing, 84% of which included some level of advice on the consumption of processed foods and 45% used terminology such as 'ultra-processed', 'highly processed' or 'processed' to discourage the consumption of certain processed foods.⁶³ As of 2022, seven countries' dietary guidelines expressly recommended eating fewer ultra-processed foods.⁶³ Mexico, South Africa, Chile, Columbia and Brazil have implemented mutually reinforcing policies, such as front-of-pack warning labels, fiscal policies, marketing restrictions, and school food regulations to reduce processed food consumption.⁶² The Nordic and Baltic countries, guided by the 2023 Nordic Nutrition Recommendations (NNR), which provides a strong evidence for an association between ultra-processed foods as a group and weight gain and obesity, have yet to establish specific guidelines regarding ultra-processed foods.^{64,65}

Several modelling studies have estimated that several of these policies have effectively reduced obesity, diabetes, cardiovascular disease incidence and healthcare-related costs.^{66–68} Brazil's new school food requirement prohibits the sale of ultra-processed foods, identified through a combination of food categories (e.g., soft drinks, candy, cakes) and ultra-processed foods' identifying feature—the inclusion of industrial ingredients. Several modelling studies have estimated that these policies effectively reduce obesity, diabetes, cardiovascular disease incidence and healthcare-related costs.^{66–68}

Many other policy measures have been implemented based on nutritional content, not level of processing, for example:

- *Beverage taxes:* 103 countries around the globe passed sugar sweetened beverage (SSB) taxes⁶⁹. A meta-analysis estimates that such taxes are associated with an average decline of 15% in SSB sales (P<0.001) and 18% in SSB intake (P=0.07), though most intake studies are limited by small samples.⁷⁰
- *Mandatory or voluntary front-of-pack or shelf labelling systems:* Nutrition labels based for example on levels of sugar, salt, fat and/or energy on the front of packaged food and beverages have been implemented in over 20 countries. Meta-analyses of short-term experimental studies on nutrition warning labels estimate that they significantly reduce purchases of labelled products, including SSB's, snack foods, and alcohol.^{71–73}
- *Mandatory or voluntary reformulation of the food supply:* Evaluations of the UK's salt reduction program estimate that it was associated with 15% reduction in sodium intake and 42% and 40% reduction in stroke and ischaemic heart disease mortality, respectively.⁷⁴ Similarly, New York City's trans-fat ban was associated with 4.5% reduction in cardiovascular disease mortality.⁷⁵ Reductions in heart disease were also linked with Denmark's trans-fat ban.⁷⁶ In



addition, the implementation of healthier nutrition standards in US schools was associated with reductions in body mass index among youth.⁷⁷

No one food policy will transform unhealthy food environments. Countries such as Chile and Mexico have implemented a bundle of healthy food policies, including taxes, nutrition labels, and marketing regulations on packaged foods and beverages. An evaluation of Chile's law found that it was associated with average reductions of 7.4 kcal/person/day (−7.5%) from beverage purchases⁷⁸ and 16.4 kcal/person/day (−3.5%) from food purchases. The policies were also associated with declines of 10.2%, 3.9%, and 4.7% in sugar, saturated fat, and sodium purchased, respectively.⁷⁹

USA Case Study: UPF policy

The U.S. Dietary Guidelines for Americans are used for U.S. food and nutrition policies. The current U.S. Dietary Guidelines for Americans (DGAs) do not mention highly processed or UPFs—only processed meat as a category of which to consume less. Importantly, however, UPFs are expressly included as a topic for evaluation for the 2025–2030 DGA Advisory Committee. The DGAs have important policy implications because they are the basis for federal, state, and local food and nutrition programs, including the National School Lunch and Breakfast Programs (NSLP) (collectively) and the Child and Adult Care Food Program (CACFP), among others. Within the DGA advisory committee a subcommittee on 'Dietary Patterns and Specific Dietary Pattern Components Across Life Stages' is trying to answer this question:

What is the relationship between consumption of dietary patterns with varying amounts of ultra-processed foods and growth, size, body composition, risk of overweight and obesity, and weight loss and maintenance?

The committee reviews evidence from early 2023 until late 2024. It will meet approximately six times, and all Committee meetings will be open to the public virtually. The activities of the Committee will conclude upon delivery of its scientific report. This report will be used by the Departments to develop the Dietary Guidelines for Americans, 2025-2030. HHS and USDA plan to release the Dietary Guidelines by the end of 2025.



UK Case Study: UPF policy

In the UK the government has expressed its concern over the potential links between ultra-processed foods to obesity and other health risks but has stated that the underlying causes are not yet fully understood. Therefore, government policy has focused on reducing the consumption of foods high in salt, saturated fat and sugar.

In 2022, the UK's Scientific Advisory Committee on Nutrition (SACN) did a review considering UPFs, evaluating existing classifications of processed foods (including UPFs and the NOVA classification), evaluating the suitability of methods to apply food processing definitions "as a dietary exposure", considering the availability and quality of evidence associating different forms or levels of food processing with health outcomes.

The SACN published the findings of its review in a summary report in July 2023. It noted that existing scoping reviews had consistently reported that increased consumption of UPFs was associated with higher risks of adverse health outcomes. However, the committee argued that there were "uncertainties around the quality of evidence available", noting that studies were "almost exclusively observational" and may not "adequately account" for confounding factors such as body mass index, energy intake, smoking and socioeconomic status.

Highlighting the limitations identified in the available evidence, the committee recommended that further research be undertaken in several areas, including in assessing and developing a UPFs classification system that can "reliably be applied" to estimate processed food consumption in the UK. The government's recent policy on UPFs reflects the SACN's conclusions that the observed associations between these foods and health are concerning, but that the underlying causes are not yet fully understood.

Following the publication of the SACN's findings into UPFs, the government was asked in the House of Lords in July 2023 what assessment it had made of the latest research into the effects of UPF on the mental and physical health of children and adults and whether it planned to introduce further restrictions on such foods. Responding, Lord Markham, parliamentary under secretary of state at the Department of Health and Social Care, highlighted that the SACN "did not find evidence for a causal link between UPFs and mental and physical health". Lord Markham also said it was "unclear" whether UPFs were "inherently unhealthy", or whether the issue was instead that such foods were "typically high in calories, saturated fat, salt, and sugar". Therefore, he reaffirmed that the government's priority was "continued action" to reduce the consumption of foods high in calories, salt, sugar and saturated fat.

The House of Lords Select Committee on Food, Diet and Obesity was appointed on 24 January 2024. This Committee will consider the role of foods, such as 'ultra-processed foods' (UPFs) and foods high in fat, sugar and salt (HFSS) in a healthy diet, including how they influence health outcomes. It will assess how shifts in behaviours and trends have impacted obesity, how government policies have influenced these shifts, and the role of the industry and the wider public in the public health landscape. The Committee is holding evidence sessions with (inter-)national experts in March and April 2024 exploring the role of foods such as ultra-processed foods and foods high in fat, salt and sugar in a healthy diet and in tackling obesity. The committee will report by 30 November 2024.



Financial risk and opportunities for investors related to processed foods

There is increasing emphasis on the need to align financial interests with public health objectives. There is a growing awareness around the adverse impact of the financialization of UPF and how this impacts diets.⁸⁰ Overall, the investment case for considering nutrition when investing in the food sector is strong and the majority of ATNI's 80-plus Investors in Nutrition and Health⁸¹ have integrated nutrition in their responsible investment approaches – thus aiming to leverage the healthiness of processed foods for both business and society. However, the topic of food processing is relatively new for the investment community. For investors who are interested in nutrition and health, the level of food processing and its effects on health is a logical issue to consider in relation to their responsible investment strategies.⁸²

Banks such as Rabobank and Barclays are already explicitly paying more attention to processing, outlining in their consumer trend reports that food companies should look at the potential risks that processed foods pose to financial returns over the long term, and opportunities to mitigate them.^{83,84} For example, one opportunity recently highlighted by Rabobank involves reverse engineering and redesigning food production processes to retain the positive aspects of food processing without being linked to adverse health outcomes.⁸³

In addition, since 2022, ATNI's signatories to the Investor Expectations on Nutrition, Diets and Health are requesting additional information regarding the extent to which companies are exposed to the risks associated with highly processed foods. First, this may include companies which face regulatory risks if countries start to implement regulation and fiscal measures that stimulate reformulation of highly processed food to promote public health. Second, reputational risk is a concern, as “UPFs” are generating significant negative media attention over the last couple of years. Third, if consumer concerns grow around the harmful effects of food processing on health, demand for highly processed product may decline, and revenues and profits in turn will fall.

Conclusion

ATNI will continue to closely follow the development of practical classification systems of food processing for integration – and new evidence on health outcomes following new randomized control trials (RCTs) – in order to integrate this into our Index methodology. This should in turn improve the utility of our research for companies, investors and policymakers.

ATNI aims to help make data available on the supply of highly processed foods globally and at country level. Such data could inform future research, better public health interventions, and improved policies. ATNI will continue to shape markets so that manufacturers are incentivized to develop products that meet criteria that are more favorable from a health perspective, and maintain the benefits of taste, safety, shelf-life, and nutritional quality while remaining profitable.



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