



Marketing Standards and Novel Foods

REPORT

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Abstract

This report examines the complex relationship between purchasing power, marketing standards, and the consumption of ultra-processed foods (UPFs) and novel foods (NFs) across Western, Southern, and Eastern Europe. While UPFs dominate dietary patterns in many regions, NFs—often promoted as sustainable and health-oriented alternatives—present their own challenges, including their generally ultra-processed nature, high price, and limited accessibility among lower-income groups. Through an analysis of socio-economic inequalities, cultural traditions, dietary behaviours, and regulatory frameworks, the report highlights the structural factors shaping food environments across Europe. Particular attention is given to disparities in purchasing power, the erosion of traditional diets, the uneven diffusion of novel foods, and the fragmented regulatory landscape influencing both UPF exposure and NF introduction.

Introduction

The European food landscape is undergoing a profound transformation driven by two divergent dynamics. Ultra-processed foods (UPFs) continue to dominate consumer diets, with rising consumption observable across socio-economic groups and geographical regions (E. M. Steele *et al.*, 2022; E. Mertens *et al.*, 2022). At the same time, the market for novel foods (NFs) is rapidly expanding, encompassing plant-based meat and dairy substitutes, insect-based ingredients, algae products, and lab-grown foods. These items are often presented as healthier, more sustainable, and technologically advanced alternatives to conventional products (Official Journal of the European Union, Regulation (EU) 2015/228; T. S. Conner *et al.*, 2025). However, a paradox emerges: many novel foods are themselves highly industrial formulations, falling squarely within the UPF category according to the NOVA classification system. Consequently, their contribution to improved public health outcomes remains contested.

Purchasing power is key in shaping dietary habits. The economic pressures caused by the COVID-19 pandemic, the EU–Russia conflict, rising inflation, and the gradual decline of welfare systems have all widened socio-economic gaps. These pressures affect Western, Southern, and Eastern Europe differently. This report examines how income differences, cultural traditions, food environments, and marketing standards influence the access to and consumption of UPFs and NFs in these regions.

Western Europe: High Purchasing Power and Persistent UPF Dependence

Western Europe—including Germany, France, the Netherlands, Belgium, and the United Kingdom—maintains some of the highest purchasing power levels in the European Union. Despite this economic advantage, the region exhibits the highest UPF consumption in Europe (E. M. Steele *et al.*, 2022). In countries such as the United Kingdom and Sweden, UPFs account for more than 39% of total energy intake, while Germany and the Netherlands follow closely with shares above 37% (E. Mertens *et al.*, 2022). This situation illustrates a paradox in which economic prosperity coexists with a strong dependence on industrially processed foods.

Several factors explain this phenomenon. First, UPFs are exceptionally convenient, offering time-saving solutions for increasingly urbanised and time-constrained populations. Second, they are heavily marketed and widely available across all retail channels, from supermarkets to fast-food chains. Third, their affordability relative to fresh and minimally processed foods makes them appealing not only to middle-income consumers but also to low-income households. Sausages, sweetened beverages, composite ready-made dishes, bakery products, and packaged snacks dominate supermarket shelves across Western Europe (E. M. Steele *et al.*, 2022), (European Regional Obesity Report (WHO) 2022).

Socio-economic inequalities persist despite high average national income levels. Socio-economically vulnerable groups, particularly in the UK and Germany, face challenges in accessing fresh, healthy food options due to higher costs, limited geographic availability, or exposure to UPF-dense environments. In the UK, UPFs account for up to 44% of dietary energy intake among vulnerable groups (E. Mertens *et al.*, 2022). These patterns are associated with increased prevalence of obesity, cardiovascular disease, and type 2 diabetes (Noncommunicable diseases report (WHO), 2024). Research further shows a statistically significant correlation between UPF intake and sugar consumption among men ($r = 0.57$, $p = 0.032$), reinforcing the role of UPFs in poor nutritional outcomes (E. Mertens *et al.*, 2022).

Novel Foods in Western Europe

Western Europe is at the forefront of NF development and commercialization. Germany, the Netherlands, and the UK lead in consumer experimentation and market diversification (Official Journal of the European Union, Regulation (EU) 2015/2283). These countries have cultivated a supportive regulatory and industrial environment conducive to NF research and development. While regulation is harmonised through the EU Novel Food Regulation (EU 2015/2283), consumer acceptance varies considerably (Farm to Fork Strategy, European Commission, 2022). Germany and the Netherlands show relatively higher acceptance of insect-based ingredients, plant-based substitutes, and lab-grown prototypes. In contrast, France maintains a more cautious stance influenced by cultural reservations and skepticism.

Despite their innovative image, many NFs fall under the UPF category. Plant-based meat analogues often rely on industrial extraction processes, stabilisers, emulsifiers, and flavour enhancers (C. A. Monteiro *et al.*, 2019). As a result, although these products are marketed as ethical or environmentally friendly, their long-term health implications are uncertain and may mirror the risks associated with UPFs more generally (J. Adams *et al.*, 2020). Purchasing power further complicates the picture: affluent consumers may adopt NFs as ethical or lifestyle-oriented consumption, while lower-income groups remain reliant on cheaper UPFs due to the relatively high prices of novel products.

Southern Europe: Traditional Diets, Low UPF Consumption, and Emerging Pressures

Southern Europe—including Italy, Spain, Portugal, Greece, and Cyprus—differs markedly from Western Europe in dietary patterns. Despite lower purchasing power relative to Western countries (Purchasing power parities in Europe and the world, Eurostat, 2025), UPF consumption remains substantially lower. This is largely attributed to the enduring influence of the Mediterranean diet, which emphasises fresh produce, olive oil, legumes, fish, whole grains, and home cooking (J. Adams *et al.*, 2020), (Tackling ultra-processed food for a healthier and just food system, EuroHealthNet, 2025). Studies show that Portugal (10.2%) and Italy (13.4%) have the lowest UPF shares in Europe, while the European average is approximately 25% (E. Mertens *et al.*, 2022). Although comprehensive national databases at the individual level are scarce in Italy, what is known demonstrates comparable product patterns, with processed meats and fine baked goods serving as important components. It's worth noting that the amount of UPFD consumed varies depending on the metric used. For instance, when energy intake is considered, UPFDs account for only a small portion of daily caloric intake. However, when we look at the percentage of daily food consumption that comes from UPFDs, the numbers are even lower—6.4% for men and 6.1% for women in Italy, and 11.2% for men and 11.0% for women in Portugal. This puts Italy among the countries with the lowest UPFD consumption in Europe, while Portugal has a slightly higher percentage (Mertens, Colizzi, & Peñalvo, 2022; see Table 1).

Nevertheless, this protective pattern is increasingly under threat. Younger populations, urban low-income households, and migrant communities are shifting toward more processed dietary habits. In Portugal, UPFs already contribute 24% of daily energy intake (Costa de Miranda *et al.*, 2021), often in the form of baked goods, sweets, and processed meats. Italy, while still below the European average, shows similar trends, with processed bakery items and ready-to-eat cereals becoming more popular among younger consumers.

Socio-Economic Inclusion and UPF Consumption in Southern Europe

Despite the persistence of the Mediterranean diet, socio-economic disparities influence food choices. UPFs offer an appealing alternative for low-income households due to their low cost, caloric density, and long shelf life. Fine bakery products, processed meats, crackers, and breakfast cereals are among the most consumed UPFs in Italy, Spain, and Portugal, representing key sources of UPF-derived energy (Mertens *et al.*, 2022). The growing consumption of UPFs among youth groups signals a gradual convergence toward Western dietary patterns, with potential long-term health consequences.

Novel Foods in Southern Europe

The NF market remains limited across Southern Europe. Consumer acceptance is hindered by strong culinary traditions, a preference for minimally processed foods, and skepticism toward industrially produced alternatives (Official Journal of the European Union, Regulation (EU) 2015/2283). Although the region adheres to the EU's NF regulatory framework (Farm to Fork Strategy, European Commission, 2022), novel foods struggle to integrate into traditional dietary

structures. Plant-based milk alternatives have gained some ground in Spain and Portugal, particularly among affluent, urban consumers. Research indicates that a lack of knowledge, unfavourable opinions, and unfamiliarity with these goods are among the other factors that prevent European consumers from being ready to embrace insect-based cuisine (Spatola *et al.*, 2024). Overall, these findings suggest that, despite the potential benefits of NFs, their integration into Southern European eating habits faces significant challenges due to cultural resistance, low consumer awareness, and socio-economic factors.

Affordability is also a significant barrier: low-income households are often unable to access novel foods due to their relatively high price. This dynamic reinforces nutritional inequalities and restricts the diffusion of innovative but costly alternatives. Without policy intervention, Southern Europe risks losing the protective buffer of the Mediterranean diet, moving towards the same UPF dependency already entrenched in the North and West (J. Adams *et al.*, 2020).

Regulatory Status of Novel Foods in the EU

Every Southern EU nation complies with EU Regulation (2015/2283) on new foods, which harmonizes the EU's authorization and safety evaluation procedures. This legislation aims to maintain the free flow of nutritious and safe foods within the internal market (European Parliament & Council of the European Union, 2015).

Southern Europe's national adoption, however, is delayed because of several obstacles:

1. Robust Traditions in Cooking

In Southern European countries, culinary traditions emphasize preparing meals with locally sourced, freshly obtained ingredients. These customs often emphasize traditional cooking techniques and seasonal vegetables, making it harder for people to embrace new foods like insect proteins and lab-grown products. Research shows that cultural background has a major impact on how consumers perceive and accept food samples, with traditional eating patterns strongly influencing food preferences. (Jeong & Lee, 2021).

2. Low Public Trust in Alternatives Processed by Industry

Because of worries about authenticity, safety, and health, industrially processed foods, including novel foods, are generally considered dubious. Rejection of novel foods is largely driven by emotions such as disgust and fear, food neophobia (the reluctance to eat or avoidance of unfamiliar foods), and particular cultural norms, which contribute to low public trust (Monaco *et al.*, 2024).

3. Higher Perceived Cost

Cost-conscious customers may be discouraged from embracing novel meals because they are often perceived as more expensive than conventional foods, particularly plant-based alternatives. Research indicates that factors such as food neophobia, unfamiliarity, and poor knowledge of the product are significant barriers to the consumption of novel foods, with perceived

Eastern Europe: Low Purchasing Power, Increasing UPF Intake, and Uneven Regulation

Eastern Europe, including the Balkans, faces the lowest purchasing power across the continent (Purchasing power parities in Europe and the world, Eurostat, 2025). GDP per capita (PPS) remains far below the EU average, with countries like Serbia (40), North Macedonia (38), and Bosnia and Herzegovina (49) struggling well below the EU baseline of 100. Even EU members such as Romania (52) and Bulgaria (51) continue to face persistent inequality and underfunded public services. More developed states such as Czechia (72), Slovenia (62), and Hungary (53) still lag far behind their Western neighbours (Purchasing power parities in Europe and the world, Eurostat, 2025).

This economic gap translates directly into food access. Vulnerable groups, particularly in rural areas, experience significant barriers to obtaining fresh, healthy foods and rely more heavily on cheaper UPFs (European Regional Obesity Report 2022, WHO). Although consumption rates are still lower in some Eastern states compared to Western Europe, they are rising rapidly, particularly among youth and low-income families (J. Adams *et al.*, 2020).

The nutritional risks associated with UPFs are severe. By definition, ultra-processed products are energy-dense, high in salt, saturated fats, and sugar, and low in fibre and micronutrients (C. A. Monteiro *et al.*, 2019). Diets dominated by such foods have been linked to higher body mass index, type 2 diabetes, cardiovascular disease, and all-cause mortality (European Regional Obesity Report 2022, WHO; J. Adams *et al.*, 2020). New data from cross-sectional and cohort studies confirm the strong association between UPFs and non-communicable diseases (NCDs) (Sustainable Healthy Diets: Guiding principles, FAO, 2019), making this a growing public health concern in Eastern Europe.

Health and Regulatory Gaps

The burden of NCDs in Eastern Europe differs from Western trends. Cardiovascular disease remains prevalent, particularly in rural and disadvantaged groups, while in Western Europe, cancer has become the leading cause of preventable mortality (Health at a Glance: Europe 2024, OECD).

Policy responses vary widely across the region. Countries like Czechia and Slovenia have taken proactive steps, adopting front-of-pack (FoP) labelling initiatives such as Nutri-Score and strengthening school food procurement policies to promote local and minimally processed foods. Slovenia has even integrated explicit discouragement of UPFs in its school nutrition guidelines. By contrast, Bulgaria and Romania have minimal regulations. Bulgaria's policies, for instance, cover only six out of ten areas identified by the World Cancer Research Fund's Nourishing Index, with weak regulation of marketing to children, front-of-pack labelling, and the food environment in schools. The Bulgarian Food Act of 2020 largely aligns with EU hygiene and labelling rules but remains minimal in nutritional standards.

This regulatory divide demonstrates how national strategies can influence exposure to UPFs. Where stronger frameworks are in place, healthier diets are encouraged, particularly in institutional settings such as schools. In countries with weaker rules, the default remains cheap, widely available UPFs, often marketed aggressively to children and vulnerable groups (E. M. Steele *et al.*, 2022; J. Adams *et al.*, 2020; Nourishing policy database, World Cancer Research Fund (WCRF) 2022).

1. Geographical Overview of Consumer Purchasing Power in Europe

Purchasing Power Parities (PPPs) are indicators of price differences across countries. PPPs tell us how many currency units a given basket of goods and services costs in different countries. Using PPPs to convert expenditure expressed in national currencies into an artificial common currency, the Purchasing Power Standard (PPS) eliminates the effect of exchange rate fluctuations.

This article presents the most recent analysis of price levels for consumer goods and services in the European Union (EU), focusing on Price Level Indices (PLI, EU=100), which compare household consumption costs across countries.

The approximate Price level indices for countries across Europe show that Serbia (67.4), North Macedonia (54.8), and Bosnia and Herzegovina (63.4) are far below the EU average. Among EU members, Romania (63.7) and Bulgaria (59.7) also remain cheaper, showing persistent income inequality and underfunded public services. Czechia (88.4), Slovenia (90.2), and Hungary (73.5) perform better but still trail Western counterparts. In contrast, Western European countries show higher price levels: Luxembourg (132.8), Switzerland (174.4), the Netherlands (116), Germany (108.6), Belgium (116.5), and France (111.2) (*Purchasing Power Parities in Europe and the World*, n.d.).

These figures highlight that the cost of living in many Eastern and Balkan countries is far lower than in Western Europe. However, lower prices do not necessarily translate into greater purchasing power, since household incomes in these countries also lag well behind EU averages. This conclusion is based on the GDP per capita value, calculated in PPS. For instance, the PLI in Bulgaria is (59.7) but the GDP per capita is only (66). That can be compared to the Netherlands, which has a PLI of (116) and a GDP in PPS of (136) (Eurostat, 2025). Low-income and rural communities are therefore particularly vulnerable when it comes to accessing a healthy diet.



Table 1: Price level index for final household expenditure (HFCE), 2024

2. UPFs and Food Affordability

"UPFs (Ultra-processed foods) are the formulation of ingredients, mostly of exclusive industrial use, typically created by a series of industrial techniques and processes". In addition to extending their shelf life, these chemicals and manufacturing techniques for UPFDs are intended to make them more profitable, appetizing, appealing, and easier to eat (C. A. Monteiro *et al.*, 2019). However, it is better to avoid these foods because they are often low in nutritional value and energy-dense, with low fiber and micronutrients but high in saturated fats, salt, and sugar, which can cause a high glycaemic load. Diets high in UPFDs may consequently raise the risk of an elevated body mass index (BMI) and add to the burden of non-communicable diseases (NCDs) due to this poor profile.

Consuming UPFs has been positively associated with at least one adverse NCD outcome, including high body mass index, type 2 diabetes, and an increased risk of cardiovascular disease and all-cause mortality, according to new data from observational cross-sectional and cohort studies. Reduced income leads to greater dependence on ultra-processed foods (UPFs) due to their greater accessibility, longer shelf life, and lower cost, particularly in underserved rural or marginalized communities. The most affected groups are youth and lower-income populations ("Tackling Ultra-Processed Food for a Healthier and Just Food System", n.d.). In Europe, UPFs currently account for 14–44% of daily calorie intake; consumption is rising even as countries like Romania, Bulgaria, and Italy are at the lower end (~14–20%).

According to the Food and Agriculture Organization of the United Nations, in 2019, the cost of a healthy diet increased globally by 6.7 percent compared to pre-COVID-19 levels and by 4.3 percent compared to 2020. This increase results from the general rise in inflation in 2020 and 2021, which was partly caused by the pandemic's lingering effects (2.2 *Cost and Affordability of a Healthy Diet*, n.d.).

New EU food affordability data for 2022 was released by Eurostat on July 10, 2023. According to the data, 8.3% of EU citizens found it difficult to pay for a meal containing meat, fish, or a vegetarian alternative every other day. This contrasts with 2021, when 7.3% of people were unable to do so. The percentage of the population at risk of poverty was 19.7% in 2022 at the EU level, which was 2.2 percentage points more than 17.5% in 2021.

Bulgaria (44.6%) had the highest percentage of persons living on the edge of poverty (poverty line) and therefore unable to afford a quality and nutritious meal, followed by Romania (43.1%) and Slovakia (40.5%) (New Eurostat Data on Food Affordability in Europe in 2022 – European Food Banks Federation – FEBA, n.d.).

Comparison of Case Studies

Focusing on front-of-pack labelling (FOPL), school food, and general nutrition control, this part shows research on the variations in food policy across nations with stronger regulations and those with fewer interventions.

Nations with stricter regulations

The Czech Republic

Despite modest progress, Czechia has attempted to include nutrition labelling on the front of product packages. The Nutri-Score label has been accepted by a few producers (Food Labelling in the European Union, n.d.). However, the Food Chamber and the Ministry of Agriculture have argued for nationally created programs, expressing doubts that Nutri-Score may discriminate against traditional foods and oversimplify nutritional qualities (Euractiv, 2025). Czechia has started including positive-endorsement front-of-pack labels into its policy design, despite this lack of trust, according to EU evaluations.

Countries with low (minimal) regulations

Slovenia

Slovenia is an example of its school food procurement regulations that specifically discourage ultra-processed meals and promote whole, seasonal, and local foods (Food Labelling in the European Union, n.d.). Furthermore, Slovenia has demonstrated institutional support for nutrition labels on the front of packaging. Although Nutri-Score is optional, the government has supported businesses to use it voluntarily.

Bulgaria

In the field of nutrition policy, Bulgaria shows less regulatory progress and innovation. Bulgaria performs well in nutritional limitations but falls behind (compared to Western countries) in essential areas, including school food conditions, child-targeting marketing, and front-of-pack labelling, according to the Nourishing Index, which includes only six of the ten policy categories. There is still room for improvement in the availability of sugary drinks and foods on school premises, even when school meal regulations are in place.

Given the limited national regulations, the Nutrition Label Standards and Regulations (N1) are largely based on EU standards and aligned laws. Other policy areas are still falling behind, such as nutrition counselling in healthcare (N2), and more general system-level initiatives like sustainable procurement (H), nutrition education in school curricula (G), healthy retail and food service environments (S), and incentives for affordable, nutritious food (U) (World Cancer Research Fund, n.d.).

There hasn't been much legislative activity. Even though it did not significantly improve nutrition-specific measures or marketing limitations, the New Food Act (2020) brought national regulations into compliance with EU labelling standards (New Bulgarian Food Act to Guarantee Quality of Foodstuffs and Implement EU Food Regulations, n.d.).

Romania

Romania is categorized as part of the "minimal regulation" group because its processes on that matter exhibit a similar pattern to Bulgaria's. There is little indication of decisive government action on school food environments, UPF limitations, or proactive consumer-facing labelling,

despite the existence of some EU-aligned labelling and safety requirements (Popescu *et al.*, 2024).

Perspectives

Countries that actively incorporate nutrition into public policy and those that mostly rely on minimal, EU-level compliance are separated by this comparison. Active measures are demonstrated by Slovenia and, to a lesser extent, Czechia, which combine school food policies and voluntary labelling programs to encourage healthy eating habits. Bulgaria and Romania, on the other hand, are still in the early phases of developing policies, with regulatory gaps in important areas that have a direct impact on the eating surroundings and purchasing decisions of young people.

Eastern European novelties in cuisine

The Eastern European nations included in this study are EU members and are subject to the same laws and regulations. However, there may be variations in market penetration, regulatory capacity, and actual implementation.

Though there might be some differences in terms of market demand, industry innovation, or regulatory preparedness to submit applications for new foods, Eastern European nations are required to abide by the same novel foods regulations as Western EU nations.

For instance, rules governing administrative work and EFSA standards may result in greater relative costs and burdens for SMEs in Eastern Europe. There is proof that the EU is promoting assistance for SMEs involved in innovative food applications. (Communication From the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions Entrepreneurship 2020 Action Plan Reigniting the Entrepreneurial Spirit in Europe, 2012).

Although the criteria are the same, regional labelling, language, and consumer approval will still be important.

Sectors and examples of newly developing innovative food industries. Insects as novel foods: Some insect species have been authorized under the EU novel foods regime (e.g., mealworm larvae, crickets, locusts). These are considered novel across all the EU, including Eastern Europe. Plant extracts, algae, new proteins, and foods produced through innovative processes are also common novel food types. Because many novel foods originated outside the EU (e.g., exotic fruits, seeds, ingredients), Eastern European markets are potential importers, subject to the same EU authorization process (Novel Food | EFSA, 2025). Example: Bulgaria

Although it is still in the beginning of the process, Bulgaria has begun to establish an ecosystem centered around creative and innovative meals. A national forum on "innovative foods" brought together investors, food brands, startup organizations, and the insect producers' association to find common ground on investment prospects and paths to market. This program shows how the nation's market for innovative foods has already brought its regulatory system into compliance with EU law. The 2020 Food Act brought national food laws in line with European standards for labelling and consumer protection in terms of traceability. This serves as the general legal basis for the introduction of novel food authorizations under EU Regulation 2015/2283 (Bulgaria, 2020).

Conclusion

Across Europe, the interplay of purchasing power, marketing standards, and cultural traditions defines access to both ultra-processed foods and novel foods. Western Europe demonstrates how high purchasing power does not safeguard against unhealthy dietary patterns, as aggressive marketing and convenience drive high UPF intake. Southern Europe benefits from traditional diets, but these are increasingly undermined by economic inequality and the spread of processed products among younger generations. Eastern Europe faces the most acute challenges, such as low purchasing power, rising UPF consumption, and weak regulations, which converge to create significant health risks.

Novel foods, while often presented as part of a solution, raise their own paradoxes. Many are ultra-processed themselves, expensive, and inaccessible to low-income communities. Far from bridging dietary inequalities, they may reinforce them, catering primarily to affluent consumers while leaving vulnerable groups dependent on cheaper UPFs.

Policy responses must therefore be multifaceted. Protecting traditional diets, narrowing the affordability gap between healthy foods and UPFs, strengthening regulatory frameworks, and ensuring that novel foods align with genuine public health objectives are crucial steps toward a fairer and healthier European food system.

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