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Eat or what to eat: A systematic review of food consumption behaviour and responses to economic shocks

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ABSTRACT

Background: In an era of frequent global disruptions, understanding consumer responses to economic shocks is more relevant than ever. This research supports resilient food policies and helps protect vulnerable populations during crises.

Scope and approach: This review investigates how different economic shocks, including financial crises, pandemics, geopolitical conflicts, and price surges, reshape food consumption behaviour across socio-economic and geographical contexts. Following the PRISMA and SPAR-4-SLR protocols, 1044 peer-reviewed articles were systematically screened from the Scopus and Web of Science databases. After applying strict eligibility criteria, 112 empirical publications were selected and thematically synthesized. The review adopted a theme-based structured methodology and constructed a conceptual typology to categorize consumer behavioural responses to economic shock types.

Key findings and conclusions: The analysis reveals that economic shocks induce heterogeneous behavioural changes, which greatly affect low-income populations. Disease-related shocks cause immediate emotional reactions, such as stockpiling, while financial and price shocks drive extended budget-conscious behaviour and dietary compromises. Geopolitical conflicts stimulate inflation and supply constraints, encouraging local substitution and adaptive strategies. A common behavioural pattern has emerged across various types of shocks: panic buying, substitution of staple foods, and growing reliance on local or online food sources. A visible diversity was observed in the methodologies used, while the application of economic theories remained limited. Developing a novel typology of shock-behaviour-policy linkages integrating empirical works with policy considerations to assess consumer adaptation. The review identifies research gaps in longitudinal and cross-cultural studies and calls for the integration of psychological and nutritional perspectives. These findings could help policymakers design resilient food systems.

1. Introduction

Food consumption habits are influenced by the economic environment in which individuals and households operate. In the past two decades, researchers have shown increasing interest in investigating food consumption behaviour and patterns to understand the impacts of economic shocks. Economic incidents from financial or political crises may indicate commodity price surges, reduced consumer demand, and changing food purchasing and preferences (Balogh & Sárvári, 2024; Davis et al., 2021; Green et al., 2013). These events induced heterogeneous reactions across various demographic segments and income levels, challenging classic consumption patterns. The empirical literature on the topic shows many individual cases applied for a specific country or geographic region (see e.g., Barda & Sardianou, 2010; Koutsou & Sergaki, 2019; Onyango et al., 2024), addressing dedicated individual consumption behaviour or policies in response to economic shocks. A fragmented picture persists despite the rich scientific work exploring different food consumption characteristics during an economic downturn. These events have left visible imprints on household food demand, from the 2008 global financial crisis to the pandemic and the inflationary aftershocks of geopolitical conflicts such as the Russia-Ukraine war. More specifically, the pandemic represented a systemic shock that affected the supply and demand sides of global food systems. Behind disruptions in food production and logistics, it also caused income losses, leading to altered consumption patterns (Ben Hassen et al., 2022; Hoque et al., 2021; Samad et al., 2022). Financial

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crises, stimulated by the collapse of Lehman Brothers, have historically led to decreased household purchasing power, increased price sensitivity, and contraction in food budgets (Bondy & Talwar, 2011). Price shocks, demonstrated by soaring staple food prices, have constrained affordability and disproportionately affected low-income consumers (Dawe & Timmer, 2012; Harttgen et al., 2016; McKenzie, 2006).

There is a lack of synthesis that bridges these fields, explains methodological diversity, and discovers specific impacts. This systematic literature review aims to address that research gap by extensively analysing of how various economic shocks, and their consequences affect food consumption patterns across geographical regions, focusing on the last two decades. Recently, an increasing number of studies have incorporated behavioural economics (Aguirre Gonzalez, 2012; Bondy & Talwar, 2011; Obuobi et al., 2024), and socio-psychological perspectives (Chirumbolo et al., 2021; Ghanbari et al., 2023; Muresan et al., 2022), employing large-sample consumer surveys and identifying the cross-country spillover effect of crises. What distinguishes this review from existing work is its cross-national synthesis and its focus on shock-specific mechanisms that link macroeconomic disturbances to micro-level food consumption behaviour. Previous literature (Béné, 2020; Davis et al., 2021; Green et al., 2013) examines local food systems and individual COVID-19 effects in isolation or through a national lens. On the contrary, this review maps a global landscape of empirical evidence, offering a comparative outline of how similar shocks generate spillover effects and different behavioural outcomes across various regional and cultural environments. Moreover, it emphasizes the consumer or household as the entity of the analysis, examining behavioural adaptation through aspects such as price responsiveness, substitution effects, psychological coping, and nutritional compromise.

This paper responds directly by integrating rigorous literature mapping, with theme-based type structured systematic literature review, and thematically structured synthesis, thus offering scholarly depth relevance. This comprehensive literature review is novel in several aspects. First, it synthesizes literature across multiple types of shocks, from disease-related (food-external and food safety-related), financial, and geopolitical to price-related, while selecting the consumer as the unit of analysis. The review creates a conceptual typology to inform policy design in food system governance by categorizing shocks and tracing their behavioural impact. Second, it moves beyond aggregate demand effects and investigates micro-level behavioural heterogeneity, drawing on global and regional-level analysis and cross-cultural studies. Third, it evaluates methodological pluralism in the literature, from econometric modelling to qualitative methods, thus drawing the contours of this developing field. Fourth, as economic volatility becomes a recurring feature of global order, understanding how consumers adapt to shocks, through changes in diet, consumption frequency, food sourcing, or brand loyalty, can help policymakers develop more resilient food strategies. The review contributes to a richer economics literature on how shocks reconfigure consumers' purchases and the means, motives, and explanations behind the behaviour. It also critically examines the adequacy of policy tools such as sectoral incentives, food subsidies, and policy responses to stabilize consumption during these disruptions. This review lays the basis for future policy formulation and development by identifying conceptual convergences and empirical inconsistencies. Considering the increasing frequency of global economic shocks and their asymmetric impact across various socio-economic groups, a consistent synthesis of the literature is timely and essential.

2. Review approach and structure

2.1. Review design and rationale

This research was designed as a systematic literature review (SLR) to ensure a comprehensive and unbiased synthesis of research on the impact of economic shocks on food consumption behaviour and patterns. A systematic approach was chosen because such reviews can address broad and timely research questions with an evidentiary power that individual works cannot achieve by themselves (Paul & Criado, 2020; Paul & Menzies, 2023). In line with scientific best practices, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were followed for transparent and complete reporting (Moher et al., 2009). Furthermore, the SPAR-4-SLR (Scientific Procedures and Rationales for Systematic Literature Reviews) protocol was adopted to guide the review process and explicitly justify methodological decisions at each step or point where the decision should be made (Paul et al., 2021). These frameworks ensured that the review process was pre-planned, transparent, and reproducible, as recommended for high-quality systematic reviews (Donthu et al., 2021; Paul et al., 2024). SPAR-4-SLR emphasizes this clarity, domain definition and research questions to align the review with its objectives (Paul et al., 2021).

2.2. Data sources and search strategy

A search for relevant literature was conducted on February 10, 2025 across two major academic databases: Scopus and Web of Science (WoS). These databases were selected for their broad interdisciplinary coverage and indexing of high-quality journals, ensuring the capture of a wide range of relevant literature. In particular, WoS and Scopus are among the most widely used sources for SLRs because they cover multiple disciplines and high-impact journals (Bar-Ilan, 2008; Martín-Martín et al., 2018). WoS tends to index a slightly more curated set of journals (with highly stringent inclusion criteria), whereas Scopus covers a larger number of journals and subject areas. Using both in tandem allowed the authors to balance breadth and quality in these search results.

The search strategy was developed in accordance with the review objectives to maximize the inclusion of relevant articles. The combination of keywords was used targeting the two core constructs: *economic shocks* (e.g., financial crisis, income shock or disease-related shock) and *food consumption behaviour* (e.g., food consumption, household food expenditure, dietary change, consumer food purchasing). Several search strings were tested iteratively during the development of the search strategy to balance comprehensiveness and relevance. After multiple refinements, the final queries were selected based on their ability to effectively capture the relevant literature (Donthu et al., 2021). Thus, publications that meet the search criterion of including 'economic' together with 'shock*', 'crises', 'downturns' or 'recession', as well as 'food*', 'beverage' or 'agriculture*', and 'consumer', 'customer', 'purchaser' or 'buyer' in the title, abstract, or keywords (Scopus) or as topic terms (WoS) were considered. The initial search was conducted based on publication year and geography, aiming to include all relevant literature published up to the beginning of 2025. The search covered all years up to early 2025; however, no eligible studies published before 2006 met the inclusion criteria. Certain notable earlier events, such as the bovine spongiform encephalopathy (BSE) outbreak in the 1990s, could have been expected to appear in the literature. However, this search did not identify peer-reviewed empirical studies on food consumption behaviour linked to such pre-2006 shocks that satisfied the inclusion criteria. Search queries in Scopus and WoS were calibrated to the syntax of the databases but kept as equivalent as possible to ensure consistency. The initial search across both databases resulted in 1044 records (558 from Scopus and 486 from Web of Science), which were imported into Covidence for screening - a practice supported by prior reviews using structured SLR software (Babineau, 2014).

2.3. Eligibility criteria

Explicit inclusion and exclusion criteria were established a priori to ensure that only pertinent studies were retained for review. Analyses that met all the following criteria were included:

- Language: Published in English (to ensure accessibility and consistent interpretation). We limited the search to English-language publications, as this is the common language of academic discourse in the field, and it ensures consistency in interpretation and comparability of findings. This decision is also in line with similar systematic literature reviews in the management and food studies domains.
- Publication type: Published in peer-reviewed academic journals. We focused on journal articles given their rigorous peer-review and excluded reviews, theses, dissertations, books, and non-scholarly reports.
- Relevance to economic shocks: The study explicitly examines one or more identifiable economic shocks (such as financial crises, economic recessions, pandemics, or conflict-induced shocks). Exogenous shock events or periods must be central to the research context rather than only general economic variability.
- Focus on food consumption behaviour and pattern: The article investigates the impacts of economic shocks on food consumption or consumer food-related behaviour. This includes measures such as household food expenditures, alteration of dietary intake, changes in purchasing patterns, nutritional outcomes, or other behavioural responses in food consumption influenced by shock.
- Empirical analysis: Both quantitative (e.g., econometric analyses) and qualitative (e.g., content analysis) were eligible if they provided data-driven, empirical insights. Papers that were purely conceptual, commentary, or review pieces lacking original empirical evidence on consumers (e.g., opinion essays or literature overviews without new data) were excluded.

Publications that did not meet any of these inclusion criteria were excluded. For instance, articles that discussed economic shocks in general but did not tie them to food or consumer behaviour outcomes were omitted. Similarly, scholarly works on food consumption change that were not linked to a discrete economic shock or lacked empirical data (such as theoretical discussions), were not considered for inclusion. By enforcing these criteria, the final set of literature addressed the nexus of shock events and food consumption behaviour, and their findings were based on systematic analysis rather than anecdotal observation. Fig. 1 provides an overview of the article selection process.

2.4. Screening and selection process

The selection process followed the multi-stage PRISMA flow of identification, screening, eligibility, and inclusion (Moher et al., 2009;

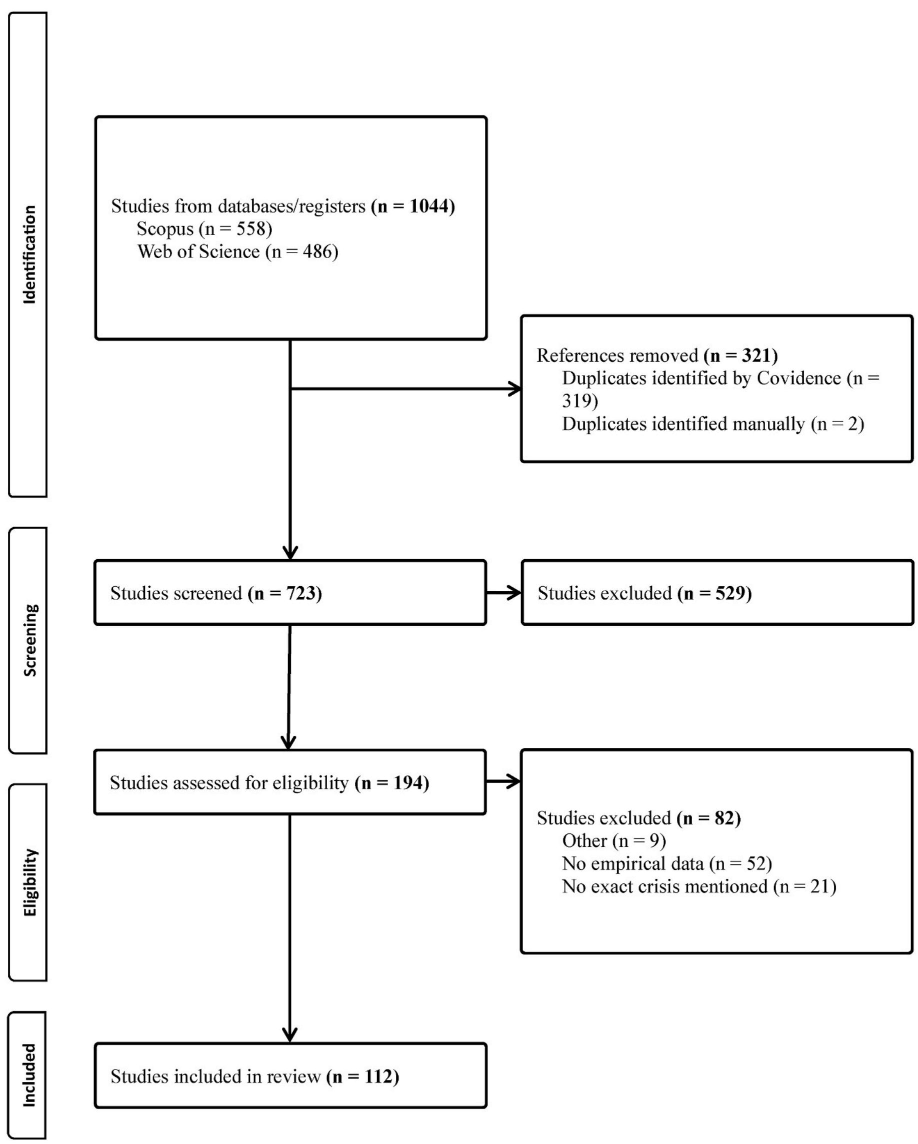

Fig. 1. The stages of the article selection process.

Paul et al., 2021). Fig. 1 illustrates the PRISMA flow diagram. At the identification stage, 1044 records were retrieved from database searches. These references were imported into a reference management system (Covidence), and duplicate entries (overlapping results between Scopus and WoS) were removed. A total of 321 duplicates were identified and eliminated, resulting in 723 unique records to be screened.

In the screening stage, the titles and abstracts of these 723 records were independently evaluated against the eligibility criteria. To enhance objectivity, at least two reviewers screened the citations in parallel, with any discrepancies in judgment resolved through discussion and consensus. During this title/abstract screening, many studies were set aside for not meeting the inclusion criteria. 529 records were excluded due to irrelevance (e.g., not focusing on food consumption, not involving a clear economic shock, or otherwise outside the scope). This rigorous screening left 194 potentially relevant articles, which proceeded to full-text review.

For the eligibility stage, the full texts of these 194 studies were obtained and thoroughly read. At this stage, an additional 82 studies were excluded. The most common reasons for exclusion during full-text assessment were: (a) lack of empirical data (52 studies were discursive or theoretical without new data on consumer behaviour), and (b) the absence of a specific shock context (21 studies discussed economic conditions or food behaviour in general but did not isolate the effect of a distinct shock event). A small number of studies (9 in total) were excluded for various reasons, such as insufficient detail on methods or outcomes related to our focus (these were classified as 'Other' for exclusion reasons). After these exclusions, 112 studies that met all criteria were analysed in depth.

2.5. Data extraction and synthesis

A data extraction form was developed to capture relevant information from the 112 systematically included articles. Key details recorded for each publication included such as the shock event or type investigated, the country or region of analysis, the population or sample characteristics, the methodological approach (e.g., econometric analysis, experimental study, qualitative interviews), and the main findings related to changes in food consumption behaviour. Extracting these elements in a structured format facilitated a comparative analysis across studies. The analytical strategy was a qualitative content analysis aimed at synthesizing findings and identifying patterns in how consumers respond to economic shocks. A meta-analysis was not performed due to the heterogeneity of work designs and outcome measures (see later); instead, a narrative synthesis was conducted, organizing the evidence by thematic categories (Snyder, 2019). To enhance the systematic nature of the synthesis, the authors aggregated and reported the number and proportion of studies showing similar outcomes wherever possible, rather than relying on isolated examples. We also indicate when an observation is derived from a single or a few studies, to help readers assess representativeness.

We defined an 'identifiable economic shock' as a discrete, well-documented event, occurring within a specific timeframe and affecting the food system—whose causes and impacts are described in the source study (see e.g., Blaikie et al., 2014; Tendall et al., 2015). The literature was grouped by the type of economic shock examined, for example, studies of macroeconomic crises (financial recessions, currency crises), studies of shocks driven by conflict or political upheaval, studies of health-related shocks (such as pandemics), and those focused on price or market shocks (such as sudden food price inflation). This allowed us to compare consumer behaviour impacts across different shock modalities. To ensure consistent application of this criterion, at least two authors independently screened and categorized every study. In cases of uncertainty (e.g., borderline examples), a third author reviewed the classification, which is a standard practice in systematic reviews (Paul et al., 2021).

A conceptual typology of shock impacts on food consumption was constructed by organizing the synthesis in this way. This approach is consistent with the framework-based review methodology, enabling structured theory-building and thematic integration (see e.g., Paul & Benito, 2018). This typology serves as the basis of the analysis and discussion, in which differences in consumer behaviour, such as those arising from financial crises versus pandemics, or between developing and developed economies, are compared. The qualitative synthesis approach also allowed findings from quantitative studies (e.g., changes in expenditure shares or caloric intake) to be integrated with qualitative research (e.g., reported experiences of food insecurity or changes in shopping habits). The consensus findings, as well as divergences and contextual factors that explain the variation, were identified throughout the analysis. The diverse and extensive body of literature was described with coherent knowledge through thematic categorisation and narrative integration while preserving each study's contextual richness.

3. Results and synthesis of the literature

3.1. Emerging patterns in the literature

Regarding the geographic coverage of the articles, Spain, the USA, and Italy were the most frequently analysed in 12, 10, and 9 articles, respectively (Fig. 2). In addition to them, Greece, Russia, and the United Kingdom can be mentioned. 60 countries were featured only in one or two articles, while 110 countries were not analysed.

The analysis of consumer aspects related to economic shocks showed little progress between 2006 and 2020 (Fig. 3), and no eligible studies were found prior to 2006. However, with the onset of COVID-19, there was an apparent peak in scientific publications during 2021–2022. In 2023, there was a significant decline in engagement with the topic, but interest increased similarly in 2024.

Although the reviewed literature mainly consists of empirical studies, a few economic theories can be identified. The Theory of Planned Behaviour, which stems from behavioural economics, is the most relevant (employed three times). Other theories, including random utility theory, cultural resource-based theory, push-pull-mooring theory, standard Ricardian trade theory, means-end chain theory, traditional price theory, and salience theory, were also used. However, most studies did not explicitly state the theories applied. Regarding the methodologies applied by the analysed articles, many scholars used descriptive statistics themselves or combined them with other methods. Mixed (qualitative and quantitative) methods were relatively common in the articles. The most used methods were econometric regression models such as structural equation modelling, ordinary least squares, time series (Holt-Winters model), logistic or multinomial logistic model, probit model, instrumental variables, and panel estimations (Table 1). It is followed by factor analysis and nonparametric tests. Factor, principal component, and cluster analyses were less frequently used. Qualitative methods (content, narrative, or ethnographic analysis) were least frequently used.

Some studies used random sampling, ensuring a representative selection of participants. Other research used snowball sampling, where respondents shared the survey with acquaintances, organically expanding the sample. Many studies relied on convenience sampling, allowing voluntary participation, often through online surveys. A few studies applied two-stage sampling by selecting villages or urban areas first and then randomly choosing households. Some studies used quota sampling, ensuring a balanced distribution of respondents based on demographic characteristics. Limited research applied purposive sampling, targeting specific groups (fair trade consumers or low-income households). Based on the selected literature, the average sample size was 2776. This is calculated from various studies, ranging from smaller samples of 63 to larger datasets of 60,000 (including respondents or households). The analyses used a combination of probability and non-probability sampling methods.

Table 2 presents the most cited studies and some of their

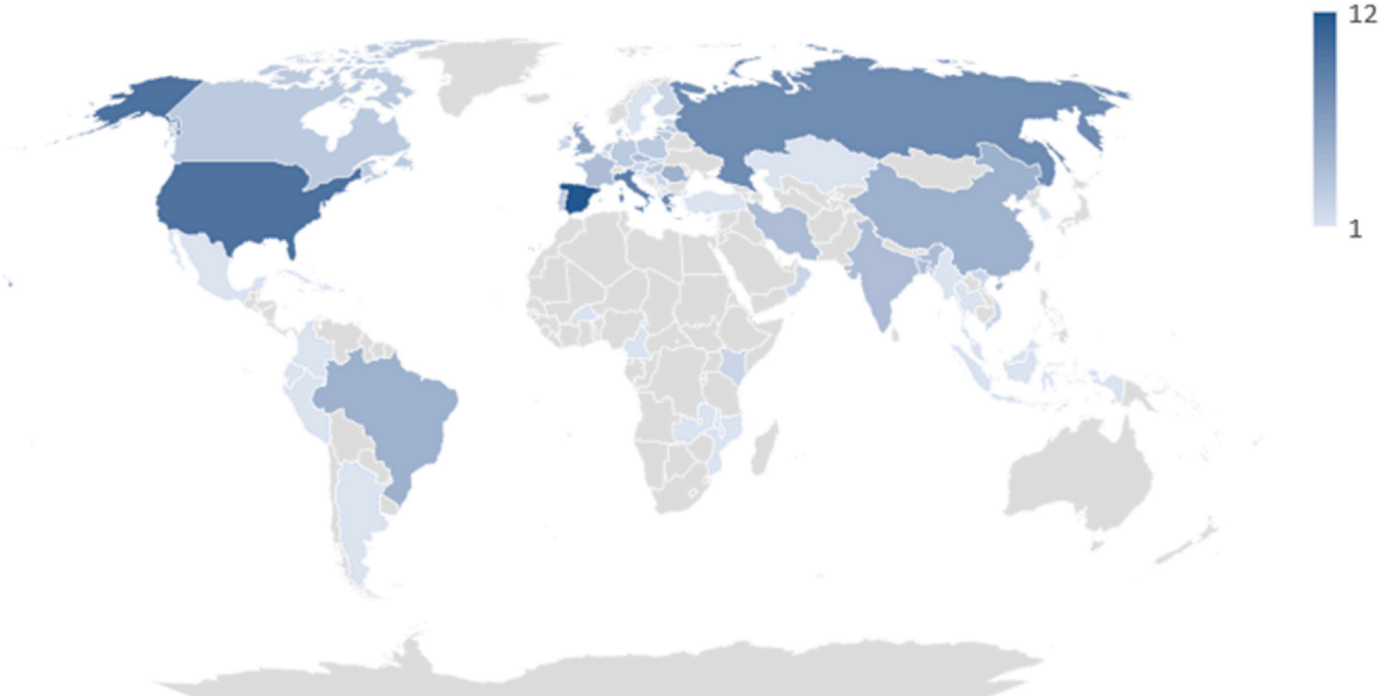

Fig. 2. The prevalence of the countries based on the analysed articles.

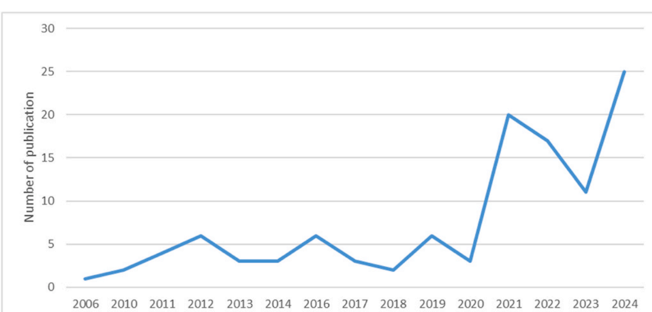

Fig. 3. Number of publications.

Table 1
Methodology applied by articles.

Quantitative methods	Count	Qualitative methods	Count
Descriptive statistics	53	Content analysis	3
Econometric regression models (OLS, IV, SEM, logistic, multiple, panel, two-stage least squares, ECM, etc.)	36	Narrative analysis	2
Factor analysis (PCA, EFA, Varimax rotation)	10	Participatory research	1
ANOVA, MANOVA	7	Ethnographic research	1
Cluster analysis	5		
Consumer price index analysis	3		
Simulations (effects of trade, price shocks)	3		
Machine learning-based modelling (Boosted regression trees, Random Forest)	2		
Nonparametric tests (Mann-Whitney, Kruskal-Wallis)	2		
Hedonic price models	2		
Price elasticities (Quadratic Almost Ideal Demand System, Almost Ideal Demand System)	1		
Multi-regional input-output models (MRIO)	1		

characteristics. At the top of the list is the work by Liobikiene et al. (2016), which applies TPB to understand green consumer behaviour in the EU. The article stands out from the field with 365 citations. In second place is the publication by Kitz et al. (2022), which analyses consumers' perceptions of food packaging during the COVID-19 pandemic. The third most cited article is the work by Marinkovic et al. (2014), which examines satisfaction and return intention with hospitality establishments, also significant, with 136 citations. Several studies address the impacts of the COVID-19 pandemic, for example Coluccia et al. (2021) analyses the disruptions in Italian agri-food supply chains, while Burlea-Schiopoiu et al. (2021) examines the changes in young people's food waste habits during the pandemic. According to the number of studies in the different shock categories, four articles analyse the impact of a disease-related shock, i.e., the COVID-19 pandemic). However, another four articles deal with a certain type of financial shock, and there is one price shock, and one article falls into the other shock category. However, it should be emphasized that it means their main shock category as some articles analysed different shocks. Majority of the most cited articles provide a country level analysis (8 of 10), while the other two articles deal with the EU and Asia, as a region.

3.2. *Grouping of shock types and responses*

The relevant literature was grouped into four main categories: disease-related shocks (53 articles), financial shocks (35 articles), price shocks (14 articles), and geopolitical conflict-induced shocks (6 articles), while the remaining 4 articles were analysed under the category of other shocks. Although the four categories of shocks identified in this review are analytically distinct, they often occur simultaneously or sequentially, amplifying their impacts.

3.2.1. *Disease-related shocks*

Disease-related shocks contain both food-external diseases (e.g., COVID-19) and food safety-related disease outbreaks caused by contaminated or unsafe food products (e.g., avian influenza), as they share similar behavioural response mechanisms (e.g., changes in purchasing, substitution patterns, or avoidance behaviour) despite differing

Table 2
Most influential (cited) papers in the field of economic shocks.

Rank	Authors	Title	Year	Geographical region and the main shock category	Journal	Citations
1	Liobikiene et al.	Theory of planned behavior approach to understand the green purchasing behavior in the EU: A cross-cultural study	2016	EU/financial shock	Ecological Economics	365
2	Kitz et al.	Food packaging during the COVID-19 pandemic: Consumer perceptions	2022	Canada/disease-related shock	International Journal of Consumer Studies	153
3	Marinkovic et al.	The antecedents of satisfaction and revisit intentions for full-service restaurants	2014	Serbia/financial shock	Marketing Intelligence and Planning	136
4	Coluccia et al.	Effects of COVID-19 on the Italian agri-food supply and value chains	2021	Italy/disease-related shock	Food Control	129
5	Burlea-Schiopoiu et al.	The impact of COVID-19 pandemic on food waste behaviour of young people	2021	Romania/disease-related shock	Journal of Cleaner Production	112
6	Dawe and Timmer	Why stable food prices are a good thing: Lessons from stabilizing rice prices in Asia	2012	Asia/price shock	Global Food Security	78
7	Alaimo et al.	Measuring consumers' level of satisfaction for online food shopping during COVID-19 in Italy using POSETs	2022	Italy/disease-related shock	Socio-Economic Planning Sciences	76
8	McKenzie	The consumer response to the Mexican peso crisis	2006	Mexico/financial shock	Economic Development and Cultural Change	71
9	Kamenidou et al.	Generational differences toward organic food behavior: Insights from five generational cohorts	2020	Greece/financial shock	Sustainability	66
10	Wu et al.	The acceptability of certified traceable food among Chinese consumers	2011	China/other shock	British Food Journal	66

in origin from pandemics or other non-foodborne diseases. In the analysis, the dominance of disease-related studies in recent years is partly explained by the lack of major global shocks in the preceding decade: following the 2008–2009 financial crisis, there was a relatively stable economic period with low inflation and limited large-scale disruptions, resulting in fewer publications on crisis-related consumer behaviour. While some consumer reactions to COVID-19 are generalisable, our synthesis highlights that many responses were country- or region-specific, influenced by local institutional contexts, market structures, and cultural norms.

The COVID-19 pandemic caused unprecedented disruptions in consumers' food purchasing habits and shopping patterns worldwide. Studies across Europe (Burlea-Schiopoiu et al., 2021; Gutiérrez-Villar et al., 2021), Asia (Kaicker et al., 2024; Wei et al., 2023), Africa (Druetz et al., 2024; Onyango et al., 2024), and the Americas (Dong et al., 2021; Kitz et al., 2022) consistently report major shifts in how people shopped for and consumed food during lockdowns and economic uncertainty. In particular, low-income populations have been most at risk of welfare losses and food insecurity as a result of these shocks (Blazy et al., 2021; Cequea et al., 2021; Filho et al., 2022; Kaicker et al., 2022; Onyango et al., 2024; Siddik & Rahman, 2023), although impacts on consumer behaviour were observed across all socioeconomic groups. One of the most immediate reactions to the COVID-19 shock was panic buying and stockpiling of essentials. Many households purchase large amounts of staple foods and other long-shelf-life products at the onset of lockdowns (Alazaiza et al., 2022; Chirumbolo et al., 2021; Jaiswal & Aagja, 2024). In most cases, shoppers sharply decreased the frequency of grocery trips but increased the volume of purchases per trip, aiming to minimize outings while keeping staple food at home (Ben Hassen et al., 2022, 2023; Nam et al., 2023).

This rush to stockpile often overshot actual needs and strained supply chains: some stores experienced temporary shelves running empty, and households ended up with more food than they could consume before spoilage. Consequently, food (and packaging) waste spiked in many places during the early pandemic (Cequea et al., 2021; Filho et al., 2022; Schmitt et al., 2021). However, as the initial shock wore on, consumer behaviour began to adapt in ways that tempered these extremes. After the first wave of hoarding, many people, mostly from developing regions, grew more conscious of avoiding waste and managing food resources wisely (Mejia et al., 2021; Obuobi et al., 2024). Highly educated consumers became more aware of food waste issues and adjusted their habits to use food more efficiently (Muresan et al., 2022). These patterns suggest that an initial phase of over-buying and waste gradually gave way to efforts at rationalizing consumption as people adjusted to the new reality. Thus, these divergent outcomes may reflect different stages of the pandemic and variations in household circumstances: initial stockpiling often led to short-term waste increases, while extended restrictions led to improved meal planning and more thoughtful food usage.

As the crisis evolved, households made longer-term behavioural adaptations in their shopping and eating routines. One notable impact was the increase in online grocery shopping and home delivery (Alaimo et al., 2022; Burlea-Schiopoiu et al., 2021; Filho et al., 2022; Ji & Han, 2022; Profeta et al., 2021; Wei et al., 2023). Thus, e-commerce worldwide rose dramatically, and the pandemic accelerated the digitalization of food retail. At the same time, there was a broad shift from out-of-home to at-home consumption (Engle et al., 2023; Liboredo et al., 2024). Many consumers consequently embraced home cooking and meal preparation as a new normality (de Barcellos et al., 2024). Consumers became more reliant on retail grocery channels and delivery for sustenance, adjusting both what they bought (shifting toward non-perishables and easy-to-make items) and how they purchased it (fewer shopping trips, more online orders). Notably, not every aspect of consumption was upended, in some cases, habits showed resilience. For instance, at-home consumption of fish and aquaculture products in France remained relatively steady, suggesting that specific dietary patterns were unchanged (Heutte et al., 2023).

Disease-related shocks induced changes in consumer preferences, priorities, and values regarding food. It is important to note that in most of these studies, observed changes in behaviour cannot be attributed to the health shock alone, as unobserved factors such as individual risk preferences, underlying health conditions, or employment stability may have played a role. Faced with a health and safety threat, many people showed a heightened interest in foods perceived to increase immunity or general well-being, as well as in products coming from sustainable, trusted (e.g., from local production) and safe sources (Brugarolas et al., 2020; Brumă et al., 2021; Cruz et al., 2024; Filho et al., 2022; Yang & Chen, 2022). In parallel, consumers paid greater attention to food safety assurances. In the wake of a disease outbreak, people tend to look for signals that food is safe. This was evident in a temporary relaxation of environmental concerns in favour of hygiene: demand for hygienic packaging and single-use plastics rose as shoppers prioritized minimizing contamination risk over reducing waste (Kitz et al., 2022; Liu et al., 2021). Despite these short-term shifts toward disposable packaging, a significant number of consumers remained (or eventually became) conscious of sustainability and community considerations (e.g., use of eco-friendly and socially responsible options) (Brugarolas et al., 2020; Muresan et al., 2022). Furthermore, support for local food producers and shorter supply chains grew in some areas as international trade faltered. Strengthening direct connections between consumers and local farmers helped improve food security (Brumă et al., 2021; Cruz et al., 2024; Filho et al., 2022; Ušča & Tisenkopfs, 2023). These examples illustrate a complex realignment of priorities: while immediate health safety often overtook environmental concerns initially, the crisis reinforced longer-term trends like interest in sustainable, locally sourced foods and frugal buying habits.

The economic consequences of the pandemic forced consumers to adjust their diets and food spending. Even in the developed world, massive income, purchasing power losses, and rising prices meant many households had to cut back on the quantity and diversity of foods they purchased. Thus, consumers became increasingly price sensitive (Ghanbari et al., 2023; Hisham et al., 2023; Kaicker et al., 2024; Lialina & Morachevskaya, 2022). In many African countries, extreme food price inflation during COVID-19 led to marked increases in poverty and food insecurity (Druetz et al., 2024; Onyango et al., 2024). Unsurprisingly, food insecurity rose due to these shocks. Low-income populations were disproportionately affected: because poorer families spend a larger share of their income on food, any hit to earnings or spike in food prices struck them hardest (Bozdo, 2021; Filho et al., 2022; Hisham et al., 2023; Kaicker et al., 2022; Kang et al., 2024; Siddik & Rahman, 2023). Many of such households coped by switching to cheaper brands and staple foods and foregoing more expensive items. Purchases of 'luxury' or non-essential foods (e.g., alcohol, seafood, or cigarettes) decreased significantly as budgets tightened (Acharya & Dhakal, 2022; Castrejón et al., 2024; Skalkos et al., 2021).

In particular, the COVID-19 pandemic severely impacted seafood consumption patterns in the Galapagos Islands due to lockdown measures, shifting from fresh to frozen and canned products (Acharya & Dhakal, 2022; Castrejón et al., 2024). In Greece, the lockdown resulted in behavioural changes among consumers, including a shift in food choice motivations, which reflects increased consumption of traditional foods during the pandemic (Skalkos et al., 2021). Acharya and Dhakal (2022) found that US household expenditures on alcohol, non-alcoholic beverages, and tobacco products significantly decreased during the COVID-19 pandemic. The shock either widened the gap between rich and poor in terms of welfare outcomes or emerged (Kaicker et al., 2024; Onyango et al., 2024). The COVID-19 reduced dietary diversity in India, especially among rural households and low-income people, widened by governmental responses (Kaicker et al., 2024). The pandemic has impacted urban slum dwellers in Nairobi, about two-thirds of whom fluctuated between acceptable and unacceptable diets. The pandemic led to widespread employment losses and reduced income sources, affecting those reliant on low-wage casual work. Households reported changes in consumption behaviour, such as eating less preferred foods and skipping meals. Authors noted that the proportion of households with unacceptable food consumption increased during the government-imposed lockdowns (Onyango et al., 2024).

Urban versus rural disparities were also observed. Sometimes, urban groups faced severe food shortages during the pandemic due to job losses and supply chain breakdowns, while rural communities, though able to rely on homegrown staples, struggled with poor market access and less diverse diets. Isolation worsened conditions in remote rural areas, while dense urban settings brought higher infection risks and heavy dependence on cash for food (Kaicker et al., 2022, 2024; Kang et al., 2024; Lialina & Morachevskaya, 2022; Secondulfo & Tronca, 2016). In some cases, increased anxiety and isolation led to higher at-home alcohol consumption, whereas in others, economic restrictions led to sharp cutbacks in such purchases (Acharya & Dhakal, 2022), both of which resulted in higher stress levels (de Barcellos et al., 2024; Dong et al., 2021). Specific livelihood groups experienced unique hardships: small-scale fishermen and farmers often could not sell their products due to market closures, resulting in wasted output, lost income and nutritional challenges (Hasan et al., 2021; Hoque et al., 2021; Samad et al., 2022). On a more positive note, some consumers improved their diet quality under these new circumstances: with more time at home, a portion of the population used the opportunity to cook healthier meals (Gerber et al., 2023). This highlights the heterogeneity of consumer responses. Although many struggled to maintain previous consumption levels, others adapted in beneficial ways.

In addition, the long-term legacy of COVID-19 on consumer behaviour is still unfolding. Many adaptive behaviours developed during the pandemic (such as online grocery shopping, home cooking, and increased price awareness) may persist even after the immediate crisis has passed. Past disease-related shocks suggest that such changes may indeed have lasting effects. For instance, earlier health scares have left lasting impressions on consumers. The experience of mad cow disease led to years-long changes in beef consumption and safety perceptions (Steiner & Yang, 2010). Similarly, avian influenza outbreaks (e.g., HPAI) have periodically caused egg shortages and price spikes, temporarily altering purchasing patterns for poultry products (Mitchell et al., 2024). In the case of COVID-19, the scale and duration of the pandemic indicated that consumers modified their behaviour in the short term and learned new habits that could endure (Bahn et al., 2025). In Lebanon, for example, the overlap of COVID-19 with a severe financial crisis forced consumers to radically adjust their shopping strategies amid hyperinflation (Bahn et al., 2025). Therefore, the experience of these disease-related shocks has reshaped the consumer landscape, potentially accelerating trends (e-commerce and conscious consumption) that will persist even as the severe crisis subsides (Coluccia et al., 2021; Gutiérrez-Villar et al., 2021; Staudigel, 2012).

3.2.2. *Financial shocks*

Financial shocks impact every aspect of life, particularly through income loss, higher prices and inflation, or limited range and availability of different products. One of the potential consequences of any crisis is unemployment, which further limits dispensable income (Moncarz, 2024; Smed et al., 2018). Different trade barriers exaggerate these impacts by increasing import and domestic prices (Moncarz, 2024). Increasing the value-added tax has similar impacts on consumption and consumer behaviour, i.e., reduced spending and altered consumption patterns (Široký et al., 2012). Higher food prices result in higher expenses on food products, while simultaneously their associated costs, such as transportation, increase, too. In the case of more expensive products, such as organic or green products, the willingness to pay the premium dropped significantly (Aguirre Gonzalez, 2012; Akrout & Kaswengi, 2019; Liobikiene et al., 2016; Raychaudhuri & Wossink, 2023). Similarly, occasional fair-trade consumers spent less on fair-trade products; however, active fair-trade consumers did not change their behaviour even under financial stress (Bondy & Talwar, 2011; Raychaudhuri & Wossink, 2023). It indicates that there can be a substantial difference in the consumption of different products during a crisis. Interestingly, the positive dependence of organic food consumption on income disappeared during the financial crisis in Czechia, suggesting that organic foods provide a more stable value compared to their conventional counterparts (Majerova & Cizkova, 2024). These mixed findings come from differences in target populations and market contexts. In higher-income segments, organic (or quality) food purchases can remain stable or even increase during financial crises due to strong value alignment and perceived health benefits. Conversely, in more price-sensitive groups, the higher cost of organic products can lead to substitution toward cheaper conventional alternatives.

Financial shocks lead to increased vulnerability of consumers, but impact different consumer segments differently and, therefore, elicit different responses. While higher-income individuals attempt to maintain their established consumption patterns, lower-income individuals often seek to minimize their expenditures by reducing food costs and opting for non-branded or generic products (Deli-Gray et al., 2013; Secondulfo & Tronca, 2016). For example, in Czechia, local brands became more popular due to the increased ethnocentrism (Kreckova et al., 2012), while in Spain, discount retailers and private labels (Puelles et al., 2016). Brand loyalty is generally important because it appeared to be stable during the financial crisis (Kreckova et al., 2012; Secondulfo & Tronca, 2016). Price has become more important than quality (Rabadán et al., 2020). Furthermore, reduced fish and fruits, or healthy and quality food in a broader sense, consumption had negative health impacts (Scuri et al., 2018; Smed et al., 2018), thus resulting in a shift from nutrient-dense to calorie-dense food consumption (Esteve-Llorens et al., 2021).

The emergence of social supermarkets during the financial crisis in Europe aimed at helping consumers in need (Knežević et al., 2021). Furthermore, short food supply chains became more popular due to greater trust in quality and solidarity with producers, leading to innovations such as installing automatic vending machines for fresh milk (Koutsou & Sergaki, 2019). Proximity and customer attention are particularly important for store attributes (Martínez-Ruiz et al., 2012). The influence of in-store marketing on consumer behaviour should be highlighted, particularly the assortment and staff service (Akrout & Kaswengi, 2019). The role of food banks has also increased even in developed countries, such as the Netherlands (Wahlen, 2016). On the consumer side, educational and public health initiatives are the main influential factors (Brodersen et al., 2022). The restaurant industry was particularly hit by the financial crisis as the number of visitors and their spending decreased. Therefore, restaurants should have made significant changes and adapted to the new situation. In addition to the perceived price, the pleasant atmosphere and quality of interaction became more important as guests wanted to be entertained (Marinkovic et al., 2014).

Due to several reasons, including high debt and tax erosion, the Greek crisis was, by nature, a macroeconomic crisis leading to unemployment and new food consumption patterns (Duquenne & Vlontzos, 2014; Kamenidou et al., 2020). The main impacts of the Greek crisis were lower quantities purchased, especially non-essential food products, and the switch to cheaper brands for most households (Duquenne & Vlontzos, 2014). The demand for organic food products decreased; however, different generational cohorts reacted differently as younger generations have a lower purchasing behaviour compared to older generations (Kamenidou et al., 2020). Their main characteristic is the prioritization of value over price (value consciousness); therefore, they seek cheaper products/brands (Kalyva et al., 2024), focusing on price more than on health issues (Vlontzos et al., 2016).

A general impact of any crisis is a lower food expenditure due to a lower per capita income. However, food items are essential compared to non-food items or services; therefore, their consumption shows a smaller decrease (Kotelnikova & Radaev, 2017), while the share of food staples could even increase (McKenzie, 2006). Within food products, green and organic purchasing decreases significantly during crises (Aguirre Gonzalez, 2012; Luengo-Valderrey et al., 2022). Local producers and food are appreciated during any situation, mainly when trade difficulties occur. In addition to the strong preference for domestic products, correlated with national and local identities, ethnocentric consumers and their consumption are less impacted by external shocks (Koutsou & Sergaki, 2019; Miguel et al., 2022). However, overall alcohol consumption increases during a crisis (Joo et al., 2021).

Overall, financial shocks have a significant impact on consumers purchasing behaviour by making them more cautious about their purchases, not being only passive buyers, and reducing purchases and food waste (Aguirre Gonzalez, 2012; Bondy & Talwar, 2011; Juhász et al., 2024; Knežević et al., 2021; Puelles et al., 2016; Raychaudhuri & Wossink, 2023; Scuri et al., 2018; Secondulfo & Tronca, 2016; Smed et al., 2018; Široký et al., 2012). Many studies do not distinguish between direct income effects, such as the immediate reduction in purchasing power resulting from job loss or wage cuts, and indirect behavioural adjustments, such as shifts in spending priorities, substitution between product categories, or changes in consumption habits due to altered price perceptions (Akrout & Kaswengi, 2019; Moncarz, 2024; Smed et al., 2018). Treating these distinct mechanisms as a single response pathway risk conflating the immediate financial constraints with more gradual, psychologically mediated adaptations, which may differ in magnitude and persistence. Poorer households with less educated members experienced even greater negative impacts (Antonio et al., 2019). One of the best examples is to turn to discount stores and cheaper products, which can be called smart and comparative consumption (Deli-Gray et al., 2013; Puelles et al., 2016). On the other hand, reduced income and consumption contribute to lower environmental impacts (Esteve-Llorens et al., 2021; Martinez et al., 2019) and material footprint (López et al., 2017). It should be emphasized that the size and magnitude of consumer behavioural change depend on the perceived duration of the crisis, resulting in lower changes if the crisis is considered temporary (McKenzie, 2006).

3.2.3. Geopolitical conflict-induced shocks

Geopolitical conflicts represent significant external shocks that can disrupt the economic and food systems, having widespread consequences for food purchase and consumer behaviour. The selected literature discusses various shocks, mainly focusing on the impacts of economic sanctions, import restrictions, and geopolitical tensions that influence food prices, product availability, and consumer decision-making in different nations (e.g., Iran, Russia, Italy, and Poland). These lines of literature stress the importance of understanding how external geopolitical pressures translate into tangible economic challenges for households and individuals (Benchimol & Palumbo, 2024; Hejazi & Emamgholipour, 2022; Herzfeld et al., 2014; Hinz & Monastyrenko, 2022; Miśniakiewicz et al., 2024; Yormirzoev et al., 2019). The re-imposition of the United States sanctions on Iran was the main reason for a significant shock in the Iranian food market, leading to unprecedented inflation across all food products. The economic pressure exerted by the sanctions made it impossible for most Iranians to maintain a healthy diet. It indicated a substantial increase in household food insecurity, which illustrates a direct causal link where a geopolitical action (sanctions) triggers an economic outcome (inflation) that severely constrains consumer choice (Hejazi & Emamgholipour, 2022).

References examined the economic effects of geopolitical conflicts and associated policy responses in Russia, particularly following the Ukraine crisis. Implementing the import ban by the Russian Federation on food and agricultural products shipped from Western countries, framed as a response to Western sanctions, is recognized as a significant barrier (Yormirzoev et al., 2019). This ban affected the availability and pricing of previously imported goods, consumer preferences and willingness to pay (Hinz & Monastyrenko, 2022; Yormirzoev et al., 2019). Geopolitical actions mandating a shift towards domestic supply can encounter resistance based on pre-existing consumer perceptions of quality, emphasizing the need for quality improvement of domestic products (Yormirzoev et al., 2019). Recent shocks related to the Russian invasion of Ukraine and subsequent sanctions have impacted the Russian economy and consumer behaviour. Economic sanctions have significantly disrupted price dynamics, with the exchange rate acting as a transmission mechanism. It increased import costs and reduced product availability, contributing to significant inflationary pressures (Benchimol & Palumbo, 2024). Prices of embargoed goods rose significantly in the short run (2.6 %–14.9 %), and while the overall price index increased by a smaller margin (0.33 %), it resulted in a welfare decline of 1.84 % (Hinz & Monastyrenko, 2022). Beyond direct price and food availability effects, geopolitical shocks and the subsequent economic instability influence consumer perceptions and behaviour in other ways. Miśniakiewicz et al. (2024) pointed out that geopolitical conflict between Russia and Ukraine and high inflation rates are significant factors that disrupt daily consumer behaviour. These shocks also increased price sensitivity due to increased food and energy costs and affected their perception of food waste.

The impacts of geopolitical shocks are not equivalent but interact with individual and contextual factors. Analysing the earlier period of economic transition in Russia (1994–2005), one research identified high inflation as a significant shock that eroded household incomes and led to declining living standards. This period also revealed demographic differences in consumption behaviour (younger vs older consumers), the persistence of habits (drinking or smoking), and the influence of education, income, and employment on consumption decisions (Herzfeld et al., 2014). Comparing the impacts in these cases reveals standard features and specific differences. Inflation, whether driven by sanctions that limit food supply, is a noticeable consequence of the geopolitical shocks discussed (Benchimol & Palumbo, 2024; Hejazi & Emamgholipour, 2022; Hinz & Monastyrenko, 2022). Inflation directly impacts consumer purchasing (Hejazi & Emamgholipour, 2022; Herzfeld et al., 2014), leading to increased food insecurity (Hejazi & Emamgholipour, 2022) and increased price sensitivity (Miśniakiewicz et al., 2024). Sanctions and import bans reduced the supply of specific products, shifting toward domestic alternatives, which consumers may perceive as lower (Yormirzoev et al., 2019). These forces indicated (Hinz & Monastyrenko, 2022). Furthermore, these shocks induce changes in consumer decision-making and perceptions. This ranges from modified food waste perceptions (Miśniakiewicz et al., 2024) and purchasing preferences based on country of origin and perceived food quality (Yormirzoev et al., 2019) to essential changes in consumption patterns driven by reduced affordability (Hejazi & Emamgholipour, 2022; Herzfeld et al., 2014) and long-term health consequences.

3.2.4. Price shocks

The literature identified various factors that contribute to price shocks in the food sector. Global macroeconomic factors feature, including a significant increase in oil prices (Barda & Sardianou, 2010; Bulkhairova et al., 2019; Casado et al., 2024; Haydaroglu & Bilgiç, 2024), which increased production and transportation costs (Haydaroglu & Bilgiç, 2024; Kneafsey et al., 2013). As a starting point, global or regional economic crises (Barda & Sardianou, 2010; Bulkhairova et al., 2019; Casado et al., 2024; Harttgen et al., 2016; Salvucci & Tarp, 2024; Whybrow et al., 2017), and subsequent recessions (Dowler et al., 2011; Kamenidou et al., 2020; Whybrow et al., 2017) are frequently cited, leading to reduced real disposable incomes and economic instability of consumers. Supply chain disruptions caused by events have also initiated significant inflation in many European countries (Haydaroglu & Bilgiç, 2024). Beyond these factors, structural problems related to climate change or extreme events, energy and input shortages (e.g., rising fertilizer prices), and geopolitical tensions contributed to price volatility (Dowler et al., 2011; Kneafsey et al., 2013).

Usually, domestic and country-related factors also played a crucial role in the occurrence of price shocks. These include the currency devaluation of the Mozambican Metical in Africa (Salvucci & Tarp, 2024), inadequate domestic food production that does not meet population growth in the UK (Kneafsey et al., 2013), and governmental economic policies such as price liberalization of Iranian urban households (Dehghan et al., 2024; Layani & Karami-Dehkordi, 2024) or market interventions of maize meal prices in Zambia and Kenya (Mason et al., 2011). The integral persistence of world price fluctuations indicates that external shocks can have long-lasting effects on domestic markets (Dawe & Timmer, 2012). Furthermore, the effects of the 2008 food price crisis have been shown to have constantly high food prices, leading to a transition in nutrition driven by necessity away from traditional foods in developing regions such as Cameroon (Sneyd, 2013). The economic crisis of 2015–2016 in Kazakhstan spurred changes in consumer behaviour, forcing many individuals to grow their products instead of purchasing commercial food (Bulkhairova et al., 2019; Casado et al., 2024).

A typical response to price shock from consumers is the restriction of food purchases, occasionally leading consumers to stop buying food items such as meat, fish, and fresh vegetables (Barda & Sardianou, 2010; Bulkhairova et al., 2019; Mason et al., 2011). Additionally, consumers frequently resort to cheaper imported foods (Sneyd, 2013) or cheaper domestic options (Whybrow et al., 2017). Rising prices encouraged individuals to self-produce their food rather than relying on market purchases (Bulkhairova et al., 2019). Beyond substitution, consumers adopt various coping strategies, including managing limited food resources, reducing the frequency of meals consumed, and altering food purchases based on affordability (Sneyd, 2013; Whybrow et al., 2017), leading to reduced variety (or quality) and quantity (Haydaroglu & Bilgiç, 2024), and limited budget plans (Sneyd, 2013; Whybrow et al., 2017).

The most serious consequences of price shocks influenced household welfare and poverty levels. Rising food prices regularly lead to decreased household purchasing power (Dehghan et al., 2024) and cause substantial welfare losses (Dehghan et al., 2024; Haydaroglu & Bilgiç, 2024; Layani & Karami-Dehkordi, 2024). Exposure to food poverty increased, with some households falling below the poverty line mentioned by Dehghan et al. (2024) and (Salvucci & Tarp, 2024). Recent shocks observed in Mozambique between 2014 and 2019 demonstrated a stark reality: food price growth contributed to an increase of poverty rate from 46.1 % to 68.2 % (Salvucci & Tarp, 2024). Such severe difficulties can force consumers to waive essential expenses on education and healthcare or reduce their intake of nutritious foods, leading to potential long-term health issues such as stunting and anaemia (Dawe & Timmer, 2012). Therefore, stable essential food prices prevent poor consumers from falling into poverty traps (Dawe & Timmer, 2012; Dowler et al., 2011).

Studies consistently concluded that the impacts of price shocks are not identical across all income levels; they are highly influenced by socioeconomic characteristics and demographics (Barda & Sardianou, 2010). Low-income households are disproportionately affected by these shocks (Bulkhairova et al., 2019; Dawe & Timmer, 2012; Dowler et al., 2011; Harttgen et al., 2016; Haydaroglu & Bilgiç, 2024; Layani & Karami-Dehkordi, 2024; Mason et al., 2011), since food expenditure constitutes a larger proportion of their budget, making them more sensitive to price changes. Urban households and people experiencing poverty are particularly vulnerable to price shocks on staple foods (Harttgen et al., 2016; Salvucci & Tarp, 2024). Younger consumers are also found to experience higher welfare losses compared to older consumers, facing more constraints in their food choices (Barda & Sardianou, 2010; Layani & Karami-Dehkordi, 2024). In contrast, while spending more on food in absolute terms, higher-income groups are less likely to be active consumers in terms of reducing spending or participating in boycotts in response to price increases (Barda & Sardianou, 2010; Layani & Karami-Dehkordi, 2024). Furthermore, gender differences are observed, and women are more likely to conduct price comparisons (Barda & Sardianou, 2010; Layani & Karami-Dehkordi, 2024). A positive relationship was found between per capita food expenditure and family size, specifically for families with the highest income percentiles in Spain (Casado et al., 2024).

3.2.5. Other shocks

Further empirical work examined the effects of various shocks on food consumer behaviour which could not be categorized into the above-mentioned categories. Pastiu et al. (2024) focus on food security in Romania, emphasizing the impact of natural disasters and socio-economic changes. Skripnuk et al. (2021) analysed consumer interactions with food operators in Russia, stressing the need for integrated food security and nutrition, considering external (globalization of food trade, a growing population, and climate change) and internal challenges (modification of the food system and archaization of technologies) faced by the Russian agrarian industry. Bai et al. (2024) and Wu et al. (2011)investigated the impact of Chinese food safety incidents, focusing on the milk scandal and other cases that led to loss of consumer confidence and brand switching. These articles show external and internal shocks worldwide that influence food supply and consumer decisions.

In addition to the primary shocks discussed in Sections 3.2.1–3.2.4, other, less frequently addressed shocks exert a notable influence on consumer food behaviour. Examples include climate-related disasters (e.g., droughts, floods) and localized supply chain disruptions unrelated to geopolitical conflict or pandemics. These shocks share specific mechanisms with climatic or price shocks, often triggering rapid, short-term disruptions due to sudden changes in availability and affordability (Barda & Sardianou, 2010; Herzfeld et al., 2014). However, the persistence of their impacts often mirrors patterns observed in geopolitical conflict-induced shocks (Herzfeld et al., 2014; Hinz & Monastyrenko, 2022), where uncertainty and infrastructural damage prolong recovery. For example, extreme weather events can harm local production capacity while increasing transportation costs, producing inflationary pressures similar to those described for sanctions-induced market disruptions (Hejazi & Emamgholipour, 2022). Linking these other shocks to earlier categories suggests that they may act in multiple ways: sometimes as amplifiers of ongoing crises, such as when floods exacerbate price inflation during an existing economic downturn (Casado et al., 2024), and other times as independent disturbances introducing novel behavioural adaptations. This effect aligns with multi-shock interaction frameworks discussed by Harttgen et al. (2016) or Salvucci and Tarp (2024), which stress that overlapping or sequential shocks can have compounded effects on food consumption behaviour.

4. Discussion, implications and possible future research line

4.1. Synthetising the results

Across the main four shock categories (excluding the category 3.5 Other shocks), an explicit pattern emerges: economic shocks of any type can severely disrupt consumer food purchasing and consumption patterns, yet the nature of these disruptions varies by shock context. Disease-related shocks cause immediate, often psychologically driven reactions. For instance, the onset of COVID-19 saw widespread panic buying and stockpiling of staple food (Acharya & Dhakal, 2022; Alazaiza et al., 2022), as households rushed to secure essentials amid lockdown fears, leading to spikes in food waste when perishable stockpiles (Alaimo et al., 2022; Alazaiza et al., 2022). By contrast, financial shocks, such as recessions, primarily operate through economic struggles: as incomes drop and unemployment rises, consumers are forced into moderate behaviour, cutting non-essential food purchases and prioritizing the cheapest options. During financial crises, many consumers switched to non-branded products and cheaper calories to stretch their budgets (Akrout & Kaswengi, 2019; Barda & Sardianou, 2010). Geopolitical conflict-induced shocks (e.g., wars and sanctions) often disrupt supply chains and drive inflation. Consumers under such conditions face scarcity and price spikes for certain commodities (Hinz & Monastyrenko, 2022; Yormirzoev et al., 2019), which restrict their choices and can erode diet quality, similarly to price shocks. Undoubtedly maintaining regular consumption is unsuccessful in most cases (Deli-Gray et al., 2013; Harttgen et al., 2016; Onyango et al., 2024).

A key difference concerns what initiates the response and how quickly people perceive and react to it: consumers not only stockpile foodstuffs but also alter how they obtain them, rapidly adapting online grocery shopping and home delivery to avoid exposure (Ji & Han, 2022; Wei et al., 2023). In these scenarios, fear and uncertainty play a dominant role: households seek foods perceived to strengthen immunity toward products deemed safe and locally sourced, even if it means a temporary abandonment of prior habits or ethical preferences (Alaimo et al., 2022; Kitz et al., 2022). In contrast, financial downturns develop more slowly; consumers adjust over months or years by paring back expenses. They become highly price-conscious, often prioritizing quantity over quality. Evidence from past recessions shows shifts from nutrient-rich foods to cheaper, less diverse, calorie-dense staples (Barda & Sardianou, 2010; Bondy & Talwar, 2011). Interestingly, brand loyalty and ethical consumption can either erode or, in some cases, persist depending on consumer segments: occasional buyers of premium or organic products tend to drop them in a crisis, whereas many committed ethical consumers attempt to maintain their habits despite financial strain (Bondy & Talwar, 2011; Muresan et al., 2022). Geopolitical conflict-induced and price shocks share elements of both the abrupt and the protracted. A war or trade embargo can suddenly remove familiar, imported food brands from shelves, forcing consumers to switch to local or alternative products (even if they are seen as lower quality) (Hinz & Monastyrenko, 2022; Yormirzoev et al., 2019). Over time, prolonged conflicts or sanctions drive inflation that steadily erodes purchasing power and forces dietary patterns like a recession (Hejazi & Emamgholipour, 2022; Herzfeld et al., 2014). In all cases, consumers exhibit a degree of adaptability: they find new shopping channels, change brands or food sources, and re-rank priorities.

The magnitude and direction of these behavioural changes depend on socio-economic context. Shocks tend to widen existing disparities. Developing countries and lower-income consumers absorb the worst impact of examined shocks. During the COVID-19 pandemic, for instance, low-income populations worldwide, especially in Africa and South Asia, experienced drastic welfare losses as food prices spiked and incomes collapsed (Kaicker et al., 2022; Onyango et al., 2024; Siddik & Rahman, 2023). They often cope by cutting down the quantity and diversity of food, sometimes skipping meals altogether. This pattern was observed during price crises when staples became unaffordable (Dehghan et al., 2024; Layani & Karami-Dehkordi, 2024). By contrast, higher-income consumer groups in developed countries generally saw less severe nutritional fallout – yet even in wealthy nations, the poorest communities and urban residents struggled, turning increasingly to food banks and emergency aid. Urban versus rural differences emerge under certain shocks: urban consumers might face shortages and high prices (e.g., when lockdowns or conflicts disrupt supply lines), while rural households may have more direct access to food production but suffer from limited market access and income loss (Dehghan et al., 2024; Harttgen et al., 2016). For example, in Greece's debt crisis, families reallocated spending to ensure basic food needs, reducing non-essentials and even younger generations became value-conscious, looking for cheaper alternatives for survival (Kalyva et al., 2024). Thus, while consumers everywhere become more cautious and resourceful in crises, those in developing or economically vulnerable regions often endure more severe contractions in diet quality and quantity, with long-term consequences for health and welfare (e.g., rising rates of malnutrition, stunting, or anaemia).

The behavioural responses observed can be separated into a few common themes. One is the 'panic–adaptation' trajectory: an initial shock triggers extreme responses that later moderate as consumers learn and adjust. In the early phase of COVID-19, panic buying led to extraordinary stockpiling and waste (Cequea et al., 2021; Filho et al., 2022; Schmitt et al., 2021). However, after this first wave, consumers began rationalizing their consumption, learning to avoid waste and manage stocks and supplies more efficiently (Mejia et al., 2021; Obuobi et al., 2024). A similar pattern occurred in financial crises: households initially cut their expenditures, then adapted to a new normal of 'smart shopping', carefully comparing prices, seeking discounts, and cutting luxury foods to minimize waste and maximize value (Aguirre Gonzalez, 2012; Knežević et al., 2021). Another important theme is substitution and dietary sacrifice. All shock types see consumers substituting expensive or non-essential foods with cheaper, more basic staples. During price hikes, families often stop buying pricier proteins like meat, fish, fruits or vegetables (Brugarolas et al., 2020; Muresan et al., 2022). When international supply is cut in conflicts or pandemics, consumers try domestic alternatives or even traditional foodstuffs (Benchimol & Palumbo, 2024; Yormirzoev et al., 2019). There are, however, expectations: some consumer segments maintain certain habits against the odds (e.g., committed fair-trade or organic shoppers who uphold their ethics in a downturn or wealthier households that continue spending on quality foods despite price rise) (Bondy & Talwar, 2011; Brugarolas et al., 2020). These differences underscore that consumer behaviour under shock is heterogeneous, influenced by personal circumstances, perceptions of the duration of the shock, and social norms. Moreover, if a crisis is perceived as short-lived, consumers may draw down savings or employ stopgap measures rather than fundamentally changing habits; however, when a shock is prolonged or its end uncertain, more permanent behavioural shifts take root.

The review also reveals a geographic imbalance in the literature, with Spain, the US, and Italy comprising 28 % of the analysed studies. This pattern reflects the concentration of research output in high-income regions rather than a selection bias in the review process, which applied broad search criteria. Cautiousness is affirmed when generalising findings from the overrepresented areas to global populations, especially given that food insecurity and vulnerability to shocks are often most severe in low- and middle-income countries. Addressing this gap should be a priority for future research, ideally through cross-country comparative designs that can identify context-specific and universal behavioural responses to shocks. The diversity of theoretical frameworks applied is noteworthy, yet often inconsistent. For instance, while the Theory of Planned Behaviour is occasionally used to frame consumer adaptation, many influential studies fail to connect their empirical findings to established behavioural theories. The synthesis highlights this theoretical underuse and points to the need to systematically integrate behavioural and economic models.

4.2. Policy and managerial implications

The evidence of these shock events points to the need for proactive policies and practical measures to manage consumer- and household-level impacts. A priority is protecting vulnerable, low-income populations before and during shocks. Targeted support, such as cash transfer programs, food subsidies, or direct food assistance (free school meals, food banks, targeted coupons), can help households maintain basic consumption habits and patterns when their purchasing power collapses (Ben Hassen et al., 2022; Dehghan et al., 2024; Filho et al., 2022; Kneafsey et al., 2013). For example, targeted cash transfers in parts of Latin America reduced food insecurity by offsetting income loss during COVID-19 (Ben Hassen et al., 2022), while food subsidies in the Middle East helped maintain dietary diversity under high inflation among low-income groups (Dehghan et al., 2024). School feeding programs in sub-Saharan Africa maintained children's caloric intake during pandemic-related income loss (Onyango et al., 2024).

However, the effectiveness of targeted support depends on the availability of fiscal resources and administrative capacities to identify and reach vulnerable groups, and political willingness to prioritise social protection over competing demands. Furthermore, such safety nets must be substantial and well-designed since small or consistent subsidies often prove insufficient to offset large welfare declines (Bulkhairova et al., 2019; Dawe & Timmer, 2012; Mason et al., 2011). Accordingly, domestic price stabilization policies are recommended to reduce the effect of market volatility. Stabilizing the prices of staple foods, through mechanisms such as price controls or temporary trade adjustments, can prevent price spikes from inducing poverty traps (Dawe & Timmer, 2012; Wahlen, 2016). Studies of past food crises show that governments cannot rely only on market forces during emergencies; timely interventions (such as releasing stocks or capping prices on staples) are often needed to secure affordability (Ben Hassen et al., 2022; Mason et al., 2011). Maintaining flexible food trade policies during conflicts or pandemics can reduce domestic price volatility and improve supply stability (Dawe & Timmer, 2012). Such measures usually face strong political-economic constraints; in past crises, protectionist measures such as export bans were politically expedient but economically harmful. Historical evidence shows that open trade channels during price shocks mitigated domestic scarcity and inflation (Dawe & Timmer, 2012). Conversely, during geopolitical tensions, Russia's import bans increased consumer prices and reduced dietary diversity (Hinz & Monastyrenko, 2022). Policymakers should consider the short-term benefits of self-sufficiency against the long-term welfare costs of reduced trade openness.

On the supply side, increasing the resilience of food supply chains is a crucial and vital long-term strategy. This includes investing in domestic agriculture and diversifying food sources. Increasing domestic food production capacity, countries become less exposed to international supply shocks and price transmissions (Benchimol & Palumbo, 2024; Dawe & Timmer, 2012). For instance, there is a need for greater support for small farmers and local producers, by providing credit, technology, and infrastructure to improve yields or market access. Strengthening local food systems mitigates the impact of global disruptions and can create positive spillovers such as local employment and shorter supply chains that reduce transport costs (Cruz et al., 2024; Ušča & Tisenkopfs, 2023). Furthermore, maintaining flexible food trade policies during conflict or pandemics is important (e.g., avoiding blanket export bans or keeping trade corridors open for humanitarian food shipments).

Where conflicts or sanctions are unavoidable, governments might need to implement food assistance programs and price controls to protect consumers (Hejazi & Emamgholipour, 2022; Wahlen, 2016). Moreover, a key aspect is the role of information and consumer guidance during crises. Governments and NGOs should engage in public communication campaigns to discourage panic buying and promote rational purchasing. Toward the beginning of the pandemic, the lack of clear information contributed to chaos in the stores (Alazaiza et al., 2022; Filho et al., 2022). Authorities can provide guidelines on household stockpiling (what quantities are truly needed); and simple practices (e.g., planning meals, proper food storage, using leftovers) become critical during these crises. Moreover, maintaining consumer trust is essential (Barda & Sardianou, 2010; Dowler et al., 2011; Kneafsey et al., 2013). During food safety scares or supply crises, transparent government and industry communication about what is being done to ensure food safety and availability can also prevent public overreaction.

Finally, building resilience for future shocks requires a cross-cutting approach. Improving infrastructure and technology is one dimension. For example, expanding (cold) supply chain logistics and delivery infrastructure helps the food system adapt when restaurants close or people must stay home. Some crises accelerated the digitalization of food retail (Alaimo et al., 2022; Ben Hassen et al., 2022; Brugarolas et al., 2020); policymakers can support this by investing in internet and delivery logistics, especially in regions where they are lagging. But shocks can be catalysts for positive change. The growing interest in local, sustainable food during COVID-19 could drive a permanent shift towards more stable consumption patterns (Cruz et al., 2024; Ušča & Tisenkopfs, 2023). Governments and communities should take advantage of such opportunities - for instance, encouraging local food co-operatives or gardens that started in a crisis to continue thereafter, which builds long-term food security (Blazy et al., 2021; Burlea-Schiopoiu et al., 2021; Cruz et al., 2024). Data monitoring and early warning systems are another pillar of preparedness (Herzfeld et al., 2014; Joo et al., 2021; Staudigel, 2012). Tracking food prices, household consumption, and nutritional status can alert policymakers to emerging crises in time to act (Dawe & Timmer, 2012; Harttgen et al., 2016; Mason et al., 2011; Salvucci & Tarp, 2024). Moreover, systematic monitoring of food prices, household consumption, and nutritional status allows early identification of emerging crises. For example, price monitoring between 2014 and 2019 enabled timely interventions as food price inflation increased poverty rates from 46.1 % to 68.2 % in Mozambique (Salvucci & Tarp, 2024). Establishing such systems requires institutional capacity for regular data collection and analysis, which may be limited in fragile or conflict-affected cases. This also involves research, collecting panel data on how households handle and respond effectively throughout the shock and can inform which interventions work best. In sum, the literature advocates for a consistent strategy that combines social protection, market intervention, local empowerment, and information dissemination to manage shocks.

These findings provide important implications for building a resilient food system. The key lesson learned is that no single policy can fix all shocks. Policymakers and stakeholders should design layered resilience in the food system: combine immediate, shock-specific measures (e.g., anti-viral sanitation, relief transfers) with long-term reforms (e.g., diversified production and robust safety nets). Table 3 synthesizes the main consumer impacts observed for each shock type alongside suggested management or behavioural response strategies as well as the supporting and contrasting literature from this review. Overall, these strategies build a food system that can withstand various disruptions. Common threads include inclusion (targeting the most vulnerable with aid and cheaper essentials), flexibility (diverse supply sources, mobile markets, digital commerce), and coordination (across government departments and with international partners).

Findings of the review (Table 3) contribute to heterogeneous consumer responses to diverse economic shocks, complementing earlier studies such as Béné (2020) and Davis et al. (2021), which mapped the vulnerability pathways linking macro-level crises to micro-level consumption outcomes. In particular, the observation that disease-related shocks provoke sharp but often temporary behavioral shifts, such as panic buying, reliance on local food sources, and the rapid adoption of online shopping (Ben Hassen et al., 2022; Burlea-Schiopoiu et al., 2021), though Heutte et al. (2023) provide evidence of dietary resilience in some cases. Financial shocks often drive sustained budget-consciousness, brand switching, and increased patronage of discount retailers (Deli-Gray et al., 2013; Puelles et al., 2016). However, differences such as the persistence of organic food value perception point to market-specific moderating factors (Majerova & Cizkova, 2024).

For geopolitical conflict-induced shocks, the inflationary pressures, shifts to domestic substitutes, and reduced availability of imported goods (Hejazi & Emamgholipour, 2022; Hinz & Monastyrenko, 2022), but, for example, Herzfeld et al. (2014) demonstrate that established consumption habits may endure even under severe economic constraints. Price shocks generate heightened price sensitivity, dietary simplification, and substitution toward staples, consistent withBarda and Sardianou (2010) or Harttgen et al. (2016). Whybrow et al. (2017) document instances where diet quality is maintained despite rising prices, illustrating resilience in specific consumer segments. Finally, other shocks such as climate events and local supply disruptions can amplify ongoing crises or be independent stressors (Haydaroglu & Bilgiç, 2024; Pastiu et al., 2024; Skripnuk et al., 2021). This reinforces the need for multi-shock aspects in resilience planning, as Harttgen et al. (2016) or Salvucci and Tarp (2024) emphasized.

4.3. Future research directions

Based on the findings, there are clear knowledge gaps and promising avenues for future research on consumer food purchasing and consumption behaviour under economic shocks. One recurrent gap is the lack of longitudinal analysis that captures how food behaviour changes endure or evolve beyond the immediate crisis period. Many existing studies provide cross-sectional snapshots during a shock (Liobikiene et al., 2016; Onyango et al., 2024), but medium- and long-term effects remain underexamined. For example, tracking consumer habits post-crisis, such as diet quality, food sourcing, and waste, over time, rather than only during the peak disruption. Longitudinal panel studies, with multiple waves of data collection, would allow researchers to observe whether emergency-induced behaviours (e.g., home cooking, stockpiling, reduced food waste) persist, revert, or transform as economic conditions normalize or new shocks arise. Researchers can distinguish short-term mechanisms from structural adaptations by following consumers into the recovery phase. Furthermore, delayed and cumulative impacts (such as nutritional deficiencies or steady budget reallocations) could only become evident through longer-term observation. Future studies that extend beyond the acute phase, for instance, conducting follow-up surveys a few years after a shock situation, would significantly enhance understanding of how consumer behaviour trajectories take shape over time. Embracing a long-term perspective can reveal whether shocks lead to permanent lifestyle changes or if individuals or households eventually return to pre-crisis consumption baselines.

Another important avenue is to broaden the geographical and cultural scope of research. This review highlighted that shock responses can vary widely between contexts, influenced by the unique situation of each country or region, socio-economic conditions, and institutional stability. However, much of the current literature focuses on single-country cases, often in higher-income or stable settings (Dowler et al., 2011; Scuri et al., 2018; Wahlen, 2016), leaving developing countries and conflict-affected regions underrepresented. Future research should conduct comparative studies across multiple countries or regions to identify which consumer behaviour changes and patterns are context-specific and which are universal. For instance, it remains underexplored how consumers in low-income countries or areas with ongoing conflict deal with global price shocks differently from those in wealthy economies. Cross-country analyses could highlight how social safety nets, food culture, or market structure mediate shock impacts on diets and purchasing. Similarly, cross-national work on topics such as fair-trade consumption found differences between countries during recessions, indicating the need to investigate cultural and market-system drivers of these differences (Bondy & Talwar, 2011). Comparative research can take advantage of natural variations, such as different policy responses or shock intensities across countries, to offer insights.

Consumer psychological factors emerge as a crucial but still under-integrated dimension in the literature. Economic disturbances do not affect all consumers uniformly; behavioural outcomes often hinge on perceptions, emotions, and social values. Conflicting behavioural outcomes, such as simultaneous increases and decreases in food waste or organic consumption, can be explained through temporal and contextual heterogeneity. These mentioned patterns vary according to income, food storage capacity, and cultural norms, underscoring the importance of integrating affective and cognitive pathways in future analyses. The contradictory evidence on organic food consumption during financial shocks reflects market segmentation (Aguirre Gonzalez, 2012; Akrout & Kaswengi, 2019; Majerova & Cizkova, 2024): value-driven consumers may prioritise organic purchases despite economic constraints, while cost-driven consumers may reduce or eliminate such purchases to preserve overall food quantity. These behavioural divergences highlight the importance of accounting for heterogeneity in consumer priorities when interpreting crisis responses. Furthermore, future studies should deepen the incorporation of psychosocial variables, such as risk perception, anxiety, uncertainty, trust, and personal values, to explain why consumers respond as they do. However, many current studies capture what changes occurred (e.g., increased stocking or reduced luxury food spending) without examining the underlying psychological drivers (Acharya & Dhakal, 2022; Aguirre Gonzalez, 2012; Castrejón et al., 2024; Knežević et al., 2021; Skalkos et al., 2021).

Moreover, the differentiated consumer responses observed across shock types can be better understood through established theoretical frameworks. Disease-related shocks often trigger heightened perceptions of personal risk, activating affective processes such as fear and disgust, which are central to Protection Motivation Theory (Rogers, 1975) and Appraisal Theory of Emotion (Lazarus, 1991). These emotional responses can override economic considerations, leading to rapid behavioural shifts such as avoidance of specific products or outlets. In contrast, financial and price shocks predominantly activate cognitive evaluations of affordability and opportunity cost, mechanisms well captured by Prospect Theory and standard economic models of consumer choice (Kahneman & Tversky, 2013). Integrating these perspectives highlights that the nature of the shock shapes whether the affective or the cognitive pathways dominate, which determines the form and persistence of behavioural change. While only three studies

Table 3
Shock-related consumer impacts and suggested response strategies.

Type of shock	Main impacts on consumers	Suggested response or management strategies	Supporting literature	Contrasting literature
Disease-related shocks	Panic buying and stockpiling of essentials (leading to short-term shortages) Reduced shopping frequency but larger purchases per trip; shift to online grocery shopping and home cooking Increased risk perceptions and demand for safe foods (hygienically packaged, local origin), sometimes at the expense of sustainability Income losses increase price sensitivity, causing low-income households to cut back on diverse foods and suffer food insecurity Complete cessation of purchasing affected products; reduced consumption; substitution with perceived safer alternatives; changes in purchasing location	Strengthen supply chain resilience to avoid stockouts (e.g., diversify suppliers, maintain emergency food stocks) Targeted aid for vulnerable groups (cash transfers, food parcels) Public campaigns for responsible buying and waste reduction to curb panic excesses. Invest in digital infrastructure to support e-commerce and delivery, enabling consumers to access food safely Promote community-based programs (e.g., home vegetable gardens, local farm linkages) to enhance food self-reliance	(Ben Hassen et al., 2022, 2023; Cequea et al., 2021; Chirumbolo et al., 2021; Coluccia et al., 2021; Cruz et al., 2024; Filho et al., 2022)	(Brugarolas et al., 2020; Heutte et al., 2023)
Financial shocks	Reduced consumer purchasing power leads to an overall decrease in food expenditure Consumers prioritise cheaper alternatives: increased purchase of store brands and staples, decline in premium, organic, or imported products Dietary quality declines as consumption shifts from protein, fruits, and other nutrient-rich items to filling, low-cost carbohydrates Many consumers practice 'smart shopping', intensively comparing prices and seeking discounts; others turn to support networks (e.g. food banks, community meals) Social and demographic divides widen, low-income and less-educated social groups experience the most significant cuts	Strengthen social safety nets (unemployment benefits, nutrition assistance) to help families afford essentials Support food charities and social supermarkets to redistribute surplus food to those in need Implement price subsidies or tax relief on basic food items to sustain purchasing power for vulnerable groups Encourage retailers to offer budget product lines and flexibly price staple goods Invest in job-creation programs and skills training to reduce long-term dependency and help households recover financially Maintain consumer confidence through transparent economic policies and, if needed, temporary price controls on elementary goods during acute phases of crisis	(Aguirre Gonzalez, 2012; Bondy & Talwar, 2011; Dehghan et al., 2024; Knežević et al., 2021; Secondulfo & Tronca, 2016)	Majerova and Cizkova (2024)
Geopolitical conflict-induced shocks	Consumers face reduced availability of certain foods (e.g., staple grains, oils) and often must substitute with local products despite potential quality differences Rapid inflation erodes real incomes: households cut non-essentials and focus on staples Accelerated economic uncertainty and sometimes physical insecurity alter habits (for example, families may stockpile food out of fear of supply collapse or, conversely, lose access to markets entirely in conflict zones) Psychologically, conflict can increase consumers' sense of caution and self-reliance (e.g., home production of food).	Humanitarian food aid and safety nets (e.g., food ration programs, refugee food assistance). Governments may need to implement emergency price controls or food rationing To stabilize markets, establishing alternative trade partnerships or domestic price subsidies for inputs (such as fuel or fertilizer) to keep local food production going Develop domestic supply chains for previously imported foods, coupled with quality assurance programs to gain consumer acceptance Support food banks and community kitchens Invest in local agriculture (climate-smart practices, drought-resistant crops) to buffer against conflict-induced volatility International coordination is critical: global grain reserve sharing or food import waivers can alleviate pressure	(Hejazi & Emamgholipour, 2022; Herzfeld et al., 2014; Hinz & Monastyrenko, 2022; Miśniakiewicz et al., 2024; Yormirzoev et al., 2019)	Herzfeld et al. (2014)
Price shocks	Sharp increases in staple food prices directly reduce consumers' real incomes and purchasing Low-income households were hit hardest – they spend a larger share of income on food, so they must reduce meal portions, decrease diet variety, and switch to cheaper calories (often lower-quality foods) In some cases, households ration or skip meals, and expenditures on health or education are diverted to food, risking long-term wellbeing Coping strategies include buying less preferred foods, growing food at home, and intensifying price-shopping (looking for deals, buying in bulk when affordable) Social unrest or panic buying can occur if inflation is very steep and sudden, though	Market stabilization policies are critical; tools like buffer stocks, import tariffs adjustments, or anti-price-gouging regulations to moderate sudden price spikes Expanding social protection (cash or in-kind food assistance) Subsidized food programs or vouchers targeting the poorest groups, ensuring that they can buy enough staples In the longer run, investing in agricultural productivity and climate resilience can mitigate price shock frequency – e.g. supporting fertilizer access, climate-smart farming, and local crop storage to smooth supplies Better price monitoring and early warning systems allow timely interventions before households are forced into (extreme) poverty International cooperation is needed to	(Barda & Sardianou, 2010; Dawe & Timmer, 2012; Harttgen et al., 2016; Mason et al., 2011; Salvucci & Tarp, 2024; Sneyd, 2013)	Whybrow et al. (2017)

(*continued on next page*)

Table 3 (*continued*)

Type of shock	Main impacts on consumers	Suggested response or management strategies	Supporting literature	Contrasting literature
	more often, the effect is a sustained decline in consumption level and quality	maintain open trade and avoid panic export bans that reduce the severity of global price shocks		

explicitly applied the Theory of Planned Behaviour in the sample, the synthesis suggests that incorporating multiple complementary theoretical lenses could improve the predictive capacity of future research.

Thus, future research should apply frameworks from behavioural economics and social psychology (e.g., the Theory of Planned Behaviour or coping theory) to assess how attitudes (health consciousness, ethnocentrism, etc.), subjective norms, and perceived control influence crisis-era consumer choices. Future analyses could segment consumers not solely by demographics, but by psychological profiles or value orientations, to see which groups maintain vs. abandon pro-social or healthful behaviours. Findings also indicate that increased uncertainty about the future leads individuals to reduce everyday food expenditure. However, interdisciplinary collaboration with psychologists can help design surveys and experiments to investigate these mental factors. Overall, integrating consumer psychology will provide a deeper understanding of behaviour, moving beyond income and prices to include the cognitive-emotional mechanisms that shape food decisions during economic shocks.

Collaboration with nutritionists can also help assess the health implications of consumption changes. If households respond to price increases by switching to cheaper, calorie-dense, less nutritious foods, there may be long-term public health consequences; interdisciplinary studies could track nutritional status and diet quality alongside economic behaviour. Environmental dimensions are also relevant: rapid changes in purchasing and consumption (for example, increased reliance on local foods or a surge in packaged goods) may affect food waste generation and sustainability. Several studies during COVID-19 noted significant shifts in household food waste (Ben Hassen et al., 2023; Cequea et al., 2021; Cruz et al., 2024; Filho et al., 2022). Therefore, future research could connect consumer behaviour with environmental impact assessments, helping to identify strategies that encourage economic and ecological resilience (e.g., reducing waste while managing shortages). An interdisciplinary lens also means incorporating policy and sociology perspectives. Consumers food choices under stress are shaped by policy interventions (subsidies, price controls, food aid) and by social factors (community support networks, cultural dietary norms). Engaging with policy scholars can guide the evaluation of different responses to crisis-policy. For example, comparative studies of regions that imposed price caps vs those that offered cash transfers could reveal which measures protect consumption (Maró et al., 2025). Sociological approaches, on the other hand, might examine how family structures or community organizations influence and shape consumption behaviour. For instance, do strong social support systems buffer the nutritional impact of income loss? By designing studies that involve experts from multiple disciplines and combining qualitative with quantitative evidence, researchers can achieve a holistic understanding of food behaviour in crises, including all aspects, from macro-level shocks to micro-level response strategies. Therefore, from an interdisciplinary point of view, future research should explicitly seek to generate timely, policy-relevant insights to help societies manage economic shocks.

To address the complexities of shock impacts, future research would also benefit from methodological improvements and innovative data strategies. One priority is improving the quality and representativeness of the data. Many pandemic-era studies relied on online convenience samples or one-off questionnaires, which can introduce bias (for example, exclude less tech-savvy, rural, or older populations) (Ben Hassen et al., 2023; Engle et al., 2023; Liboredo et al., 2024). Future work should aim for more robust sampling or at least apply post-stratification techniques to correct biases. Where face-to-face surveys are challenging (as in pandemics), researchers might use mixed methods: telephone interviews in line with internet surveys to reach those without internet access. Moreover, longitudinal panels (as discussed above) and experimental designs could be used to strengthen causal inference about how shocks influence behaviour. The digitalization of food retail and consumption provides rich datasets that remain insufficiently utilized in shock research (Alaimo et al., 2022; Ben Hassen et al., 2022; Brugarolas et al., 2020). Future studies could use retail scanner data, grocery loyalty card records, or online shopping transaction data to obtain objective, high-frequency measures of purchasing changes during crises. Such data can reveal real-time shifts in purchasing (e.g. spikes in staple food sales during panic buying) and allow analysis of patterns that surveys might miss. Social media and web search data also present novel tools: content analysis of social media posts has been suggested for capturing consumer sentiments and emotional reactions to food availability or policies. These digital data streams can enhance our understanding of consumer mindset and information spread in crises (e.g., how fear propagates online, contributing to herd behaviours). From an analytical perspective, advanced techniques such as time-series econometrics or machine learning modelling could be expanded to model consumer behaviour under shock scenarios and forecast responses to future events. The literature also highlights the need for better indicators and metrics (Harttgen et al., 2016; Salvucci & Tarp, 2024), for example, developing composite indices of food insecurity and consumer behaviour and validating them alongside nutritional outcomes in crisis contexts.

5. Conclusions

Understanding the behavioural responses to economic shocks provides practical lessons to build consumer preparedness. Each type of economic shock has distinctive catalysts and consumer reactions, whether initiated by pandemics, financial crises, geopolitical tensions, or price volatility. Studies reviewed suggest that consumer food behaviour is highly sensitive to the economic context. Although low-income households often suffer the most powerful impacts, such as reduced variety, quantity, and nutritional quality; other consumers engage in strategic behaviours such as stockpiling, substitution, or switching to local sources. Moreover, the observed shift among specific consumer segments, particularly in high-income countries, toward placing greater value on product attributes that are less related to intrinsic quality, such as ethical sourcing, environmental sustainability, and social responsibility, is an important phenomenon. This indicates an evolution in consumer priorities, where extrinsic cues influence purchasing decisions alongside, or even in place of, traditional quality indicators. When supported by effective policy and infrastructure, these behavioural changes can reshape long-term food systems. Comparing these events globally, this study has shed light on the fragility of consumer behaviour under pressure. Policymakers and stakeholders should consider these insights: strengthening social protection bases, ensuring market stability, and promoting adaptability (through technology, local networks, and information dissemination) are crucial to protecting food security in an era where shocks are likely to recur with increasing frequency. Future crises are inevitable, but their impact on consumers can be managed and mitigated. Proactive strategies, as reported by evidence from past shocks, will be essential to enable consumers to withstand the next disruption and emerge with more sustainable and secure food practices for the future.

Finally, the analysis also has some limitations. First, despite the synthesis, the review is limited by the available empirical literature, which remains fragmented and heavily focused on high-income and low-income or urban and rural contexts. Many studies reviewed lacked longitudinal scope, limiting insights into the durability of behavioural change post-shock. Second, there are geographic differences between the studies: a significant number of countries, especially in Sub-Saharan Africa and conflict zones, were underrepresented. Third, the heterogeneity in methodological approaches and results among the reviewed articles challenges direct comparisons. It is related to the large differences in sample sizes. A small, non-representative sample (e.g., below 100 responses) cannot provide the opportunity of the same methodological tools as large, representative sample. Beyond these core issues, several additional limitations are considerable. The analysis focused exclusively on English-language, peer-reviewed journal articles, potentially excluding relevant findings from other languages or grey literature. While this ensures the inclusion of peer-reviewed studies of recognized academic quality, it inevitably introduces a selection bias by excluding research outcomes published in other languages not covered by these databases. This is particularly relevant for developing countries, where food insecurity is often most severe and where relevant studies may appear in local or regional outlets. Furthermore, we excluded grey literature, policy reports, and working papers, which may contain valuable empirical insights from international organizations, central banks, and research institutions. These exclusions may narrow the evidence base and omit practical findings on crisis responses; however, our focus on peer-reviewed journal articles was chosen to maintain methodological rigour and comparability across studies. Data quality and representativeness were uneven, and many publications relied on convenience samples (e.g., online surveys), often excluding rural, elderly, or digitally excluded groups. But aside from these limitations, this review contributes a typology-driven interpretation of how economic disruptions and shocks influence consumer food behaviour at the micro level while mapping out areas where research and policy must evolve. Future studies should capture immediate behavioural changes and the persistence of these differences over time, especially as recurring shocks become a structural feature of the global food system. Stakeholders can develop more effective adaptive strategies that protect low-income populations and enhance the stability of the agrifood industry by integrating consumer perspectives into policy frameworks.

Ethics statement

The authors have nothing to report.

Data availability statement

Data sharing is pertinent to this study because no data sets were produced or examine.

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