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FOOD WASTE IN POLISH HOUSEHOLDS AS AN ECONOMIC PROBLEM

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ABSTRACT: The aim of our research was to investigate the scale and causes of food waste in households and its economic consequences, as well as the respondents' attempts to curb food waste. Empirical research was performed in 2023 in the form of a diagnostic survey employing a standardised questionnaire on a total of 802 subjects. It was found that most frequently wasted food included ready meals, bread, vegetables and fruit. Exceeding the expiration date, food spoilage, and preparing excessive amounts of food were the most common reasons for wasting food. To limit food waste, the respondents used measures such as freezing food to eat later, drawing up a shopping list, using food to prepare other meals, checking the expiration date and purchasing less food. It was also found that during the constant rise in food prices in 2022, the respondents used these measures more often than before. A large-scale information campaign is required to raise awareness of the necessity of preventing food waste.

KEYWORDS: food waste, household, financial losses

Introduction

Food waste is a global issue. According to data cited by the Food and Agriculture Organization (FAO), 1.3 billion tonnes of edible food are wasted worldwide each year, which corresponds to1/3 of all food produced (Łaba, 2020). Food is wasted throughout the food supply chain, starting from basic production (sourcing raw materials), processing, transport and storage, trade, and gastronomy, through to households (consumers). Food wastage has multiple adverse environmental, social and economic effects (Dąbrowska et al., 2013). A review of the literature on the subject reveals that it is households that generate most food waste, although consumers do see food waste as a serious environmental, economic and ethical problem (Tomaszewska et al., 2020; Kosseva & Webb, 2013). Data published in the FUSIONS Food Waste Data Set for EU-28 suggest that 28 UE member states generated 87.6 million tonnes of food waste (+/- 13.7 million tonnes), of which 53% originated in households (Tomaszewska et al., 2020; Timmermans, 2015). According to Eurostat estimates for 2006, 9 million tonnes of food are wasted in Poland each year. Different results were obtained by Polish research teams under the project "Development of a system for monitoring wasted food, and an effective programme for rationalising losses and limiting food waste" (PROM) carried out in 2019 on a Poland-wide sample of 500 households[1]. Research shows that 4,840,900 tonnes of food are wasted in Poland annually across the food supply chain, of which 2,912,800 tonnes are in households, which corresponds to 60.17% of all food waste (Łaba et al., 2020). Differences in estimates may result from research methods applied or the lack of possibility for collecting reliable, complete data.

Based on Eurostat data for 2020, there are significant dissimilarities in the amount of household food waste across 27 EU member states. The quantities differ by 30 to 124 kg per capita per year. In Poland, the figure was 60 kg of food waste per capita per year (Eurostat, 2023).

As food waste and sustainable consumption are currently extremely important and relevant issues which require closer investigation, in 2023 the authors of this study conducted empirical research among consumers. Its findings are presented in this article.

One definition of consumption says that it is consumption that sustainable consumption is consumption that simultaneously optimises the environmental, social, and economic consequences of consumption to meet the needs of both current and future generations (Luchs, 2011). Referring to the definition of sustainable consumption, it is worth pointing out the classification indicated by Lorek and Fuchs (2013), which presents it in two dimensions: weak and strong. Weak sustainable consumption assumes that sustainable consumption can be achieved through technological innovations, leading to more efficient or "greener" products that spread through markets driven by consumer demand (Lorek & Fuchs, 2013). In contrast, strong, sustainable consumption emphasises human well-being within the Earth's carrying capacity. It assumes that a fundamental change to current consumption levels and patterns is necessary to achieve sustainable consumption (Lorek & Fuchs, 2013). In this study, you can find reference to a strong approach to sustainable consumption.

Any food waste analysis should start with defining its key terms: *food loss and waste* (FLW). On the basis of a 2014 concept by FAO, Boiteau and Pingali (2023) proposed a harmonised definition: food loss and waste (FLW) is a reduction in the quantity or quality of the edible portion of food intended for human consumption when food is redirected to non-food uses or when there is a deterioration in the nutritional value, safety, or other qualitative aspect, from the time food is ready for harvest or slaughter to consumption.

According to a definition by FAO, "food is any substance whether processed, semi-processed or raw which is intended for human consumption, and includes drink, chewing gum and any substance which has been used in the manufacture, preparation or treatment of 'food' but does not include cosmetics or tobacco or substances used only as drugs" (FAO, 2014). *Food waste* (FW) is an important part of food loss. It refers to the removal from the *food supply chain* (FSC) of food appropriate for human consumption which is "discarded, whether after it is left to spoil or kept beyond its expiry date due to negligence, mainly of the household-level end consumer" (FAO, 2014).

[1] The study was undertaken in the years 2018-2021 by the following team of researchers: Polish Food Bank Federation (leader) together with partners: Environmental Protection Institute – PIB, Warsaw University of Life Sciences (SGGW), National Support Centre for Agriculture and the Polish Food Technologists Association.

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Methods

A diagnostic survey was employed to study the issue of food waste. From January to April 2023, empirical research was performed based on a questionnaire prepared by the authors, and its target audience included heads of Polish households. The CAWI (Computer-Assisted Web Interview) method was used to collect data. Fundamental benefits of the use of the CAWI method include, among other things, "short duration compared to a direct survey (e.g. sending questionnaires, telephone interview); high penetration in the population segment of interest, guaranteed high quality of all research methods applied and the use of innovative technological solutions, the absence of the costs of data input, radically reduced overall cost of conducting research, collecting reliable data due to the respondent being able to participate in the study at the optimal time and pace, and finally, the overall effect is reinforced by the sense of anonymity" (Malinowski, 2012). Undoubtedly, a significant strength of this research method is that it offers a far wider reach when compared to other channels (Morawski, 2021) since CAWI allows researchers to carry out their studies if direct contact is difficult (Kalinowski & Wyduba, 2020). Studies employing CAWI enable respondents to remain anonymous. However, a sample selected in this way is not representative. To reduce potential errors during the research, the socio-demographic structure of respondents was monitored on an ongoing basis to limit the group of respondents to a uniform group. In situations where fluctuations were noticed, attempts were made to limit them. Respondents were informed about the anonymity of the research and agreed to participate in it. This consent was in the form of verbal information.

The actual research using the CAWI method was preceded by pilot research, which was conducted in the traditional interviewer-respondent form. This allowed for the validation of the research tool and adjustments to it.

The empirical material obtained in the above manner was analysed with the use of the STATISTICA suite. Statistical analysis included the calculation of percentage distribution of quantities, as well as relationships between variables by means of the Mann-Whitney U test and Spearman's rank correlation coefficients. The significance of differences was defined as $p = 0.05$. The results were presented both in descriptive, graphic and tabular form.

Results

A total of 802 respondents, of which 72% were women, took part in the survey. The mean respondent age was 38.84 years, with a standard deviation of 9.67. The youngest participant was 19 years old, and the oldest participant was 75 years old. In terms of levels of education, the analysed population was dominated by the two most numerous groups: respondents with basic vocational (44.4%) and higher (38.8%) education. 15.3% of those surveyed had secondary education, while the remaining ones (1.5%) were subjects with primary or lower secondary education. Income level was correlated to the respondents' level of education: the higher the latter, the greater the respondent's income. Blue-collar workers made for 45% of the population, white-collar employees slightly more than ¼, while self-employed or business owners constituted 16.5% of those surveyed (Figure 1).

Socio-demographic characteristics that may correlate with food wastage include marital status, place of residence, and number of individuals in the household. The vast majority of respondents (85.4%) were either married or had a partner. The sample included predominantly households with 4 inhabitants (modal value 4). Mean number of individuals in a household was 3.44 (standard deviation 1.18). The mean number of children under 18 in households was 1.07, with a standard deviation of 0.93. Income is perceived as one of the determinants of consumption levels. In the surveyed group, 40% of households declared mean monthly per capita income from PLN 3001 to 4000, whereas nearly 38% stated that the value ranged from PLN 2001 to 3000. The highest level of per capita income in the household, above PLN 4000, was reported only by 11.6% of households.

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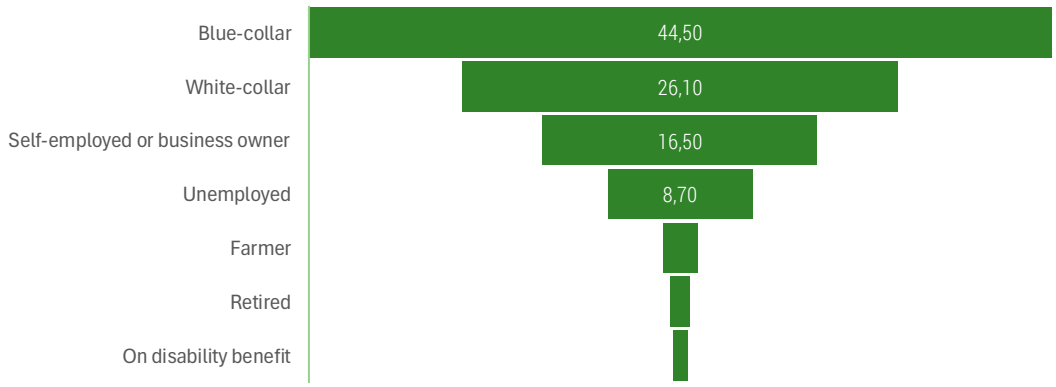

Figure 1. Population structure by occupational status [%]

Source: authors' work based on study results (N=802).

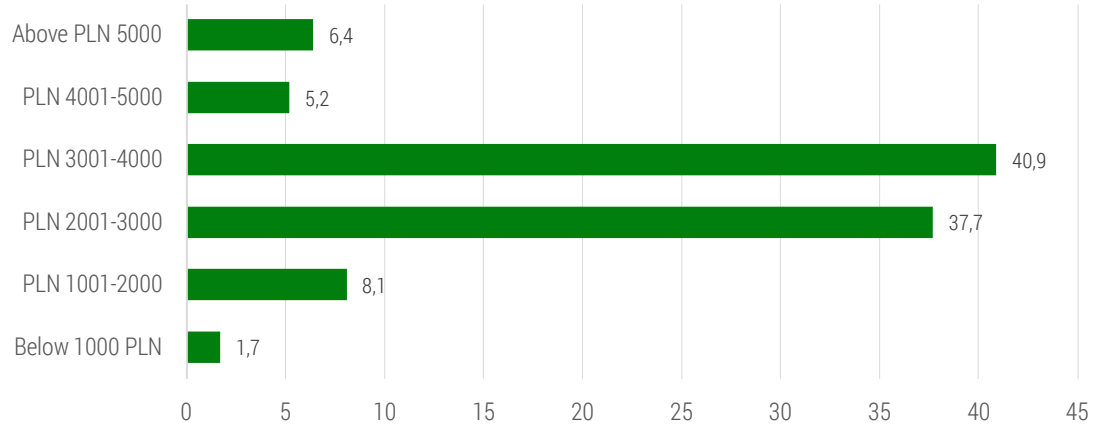

Figure 2. Mean monthly net per capita income in respondent's households [%]

Source: authors' work based on study results (N=802).

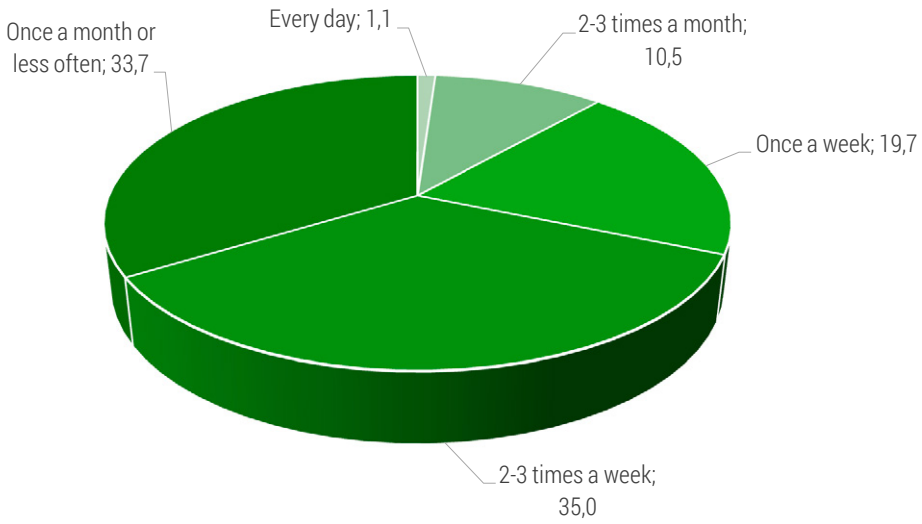

Figure 3. Food waste rate in the respondents' households [%]

Source: authors' work based on study results (N=802).

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The study was designed to determine the types of food are usually discarded and how often. With regard to frequency, the smallest group included respondents who reported that in their household some food was thrown away every day (1.1%). A fifth of all surveyed households threw away food once a week, and the most numerous group reported that they discarded food 2 to 3 times a month.

There were no statistically significant differences between food waste rate and the respondent's gender (p=0.623), place of residence (p=0.587), level of education (p=0.093) or the number of individuals in the household (p=0.145). However, this relation was reported for the age of the respondent and food waste rate (p=0.000; Spearman's correlation=0.117). It was found that respondents aged 25 and under discarded food definitely more often than other age groups. Nearly 60% of them threw away food once or 2 to 3 times a week. This rate was reported by 26.9% 26- to 35-year-olds and 25.2%. respondents aged 36 to 45.

Similar results were obtained by Neffe-Skocińska et al. (2020) for a group of subjects aged over 60 (n=305): it was found that seniors reported throwing away food less often than other age groups. The present results concerning food waste rate are also similar to those obtained by Mitka (2022), who surveyed a group of 148 subjects. In her study, most respondents discarded food once a month (31.1%) (Mitka, 2022).

In addition to food waste rate, an equally important aspect is the type/category of food discarded. Food thrown away in more than half households included ready meals, bread, vegetables and fruit – see Figure 4.

Food waste studies indicated that bread and pastry products are discarded in most surveyed groups, as exemplified by the results obtained by Jakubowska (2022), who conducted empirical research on a group of over 300 university students aged 21 to 25. It was found that 61% of respondents threw away bread and pastry products (Jakubowska, 2022). A survey conducted by Lemanowicz and Jasiulewicz (2023) among 1078 respondents aged 18 to 35 suggests that bread was the most frequently discarded food category (51.8%). Likewise, in a study by Korzeniowska-Ginter and Dereszewska (2018) performed on a group of 354 inhabitants of Warmińsko-Mazurskie Province and Pomorskie Province, bread was the product most commonly purchased in quantities in excess of its actual consumption. This pattern is confirmed also by research conducted as part of the "PROM" project in early 2019 among 1115 respondents aged over 18, which suggests that as many as 62.9% of Poles threw away bread (Niedek & Krajewski, 2021).

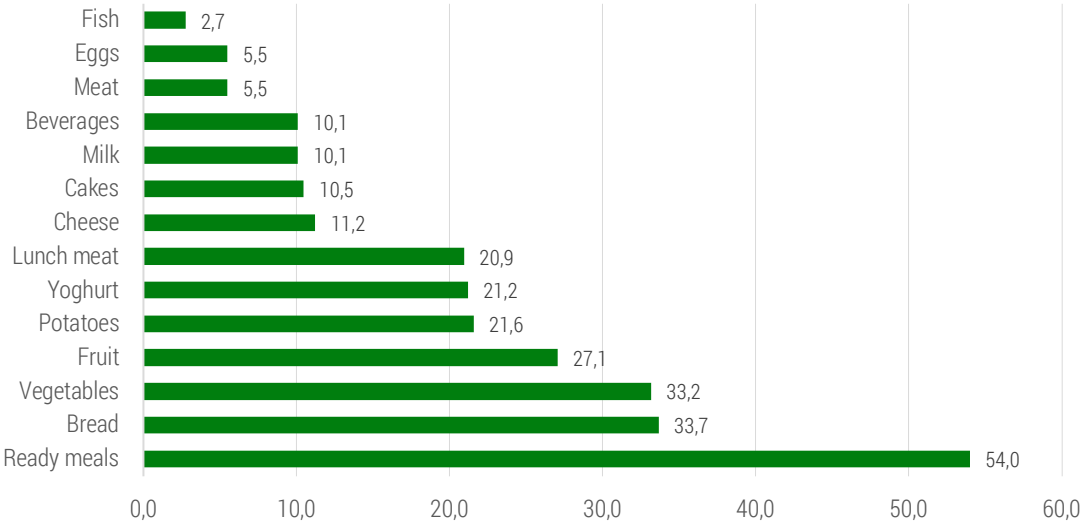

Figure 4. Types of grocery products most commonly discarded in respondents' households (the total does not add up to 100%; respondents were asked to name no more than 5 most frequently discarded products)

Source: authors' work based on study results (N=802).

The results indicate that the other most commonly discarded food categories were vegetables (33,17%) and fruit (27.06%). These quantities are markedly lower in juxtaposition with a study car-

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ried out in 2019 as part of the PROM project[2], in which the corresponding values were 57.4% for fruit and 56.5% for vegetables (Niedek & Krajewski, 2021). Presumably, such large discrepancies between the studies are caused by the fact that the PROM research was conducted in the period before a steep rise in food prices, which could, in turn, lead to a reduction in food waste.

A further group of food products was thrown away by approx. 20% of households included potatoes, yoghurts and lunch meat. Fish (2.74%) was the product least often discarded by households. This may stem from the fact that fish consumption is very low: according to data from Poland's Central Statistical Office (GUS), mean fish and seafood per capita consumption in a Polish household was 0.28 kg (of which 0.10 kg dried, smoked and salted fish and seafood) (GUS, 2022).

Based on publications by other authors (Gosiewska, 2013; Federacja Polskich Banków Żywności, 2013; Wrzosek et al., 2014), Śmiechowska (2015) determined the following aspects affecting food waste:

- Natural loss due to storage conditions as a result of physical and biochemical changes (e.g. desiccation),
- loss caused by improper food management and errors in the course of production, processing, transport and storage,
- waste resulting from improper distribution, transport, storage and preparation of food by businesses and households.

However, it appears that the categories named by Śmiechowska (2015) should be expanded by the addition of economic and marketing factors. This category includes packaging sizes and promotional campaigns by food producers and retail networks.

Food waste causes were assessed, and the results are presented in Table 1.

Table 1. Causes of food waste in respondents' households as cited by the respondents

Reasons for food waste	Very often	Often	Neither of tenn or rarely	Rarely	Very rarely	Never	Mean*	Standard deviation
	in %							
Food spoilage	22.2	54.0	16.6	3.9	3.2	0.1	**4.88**	0.9
Exceeding the expiry date	27.7	49.9	9.2	6.5	5.4	1.4	**4.89**	1.05
Preparing excessive quantities of food (e.g. for holidays)	20.2	37.0	24.1	8.6	6.9	3.2	4.56	1.12
Low food prices lead to lack of foresight and, later on, to food waste	15.5	36.2	24.4	5.6	8.0	**10.3**	4.50	1.12
Lack of ideas for using ingredients to prepare meals	15.0	38.4	20.8	7.1	8.5	**10.2**	4.49	1.14
Too large packaging	16.8	37.7	20.4	8.7	9.6	6.7	4.46	1.19
Badly planned shopping (no shopping list)	14.1	38.3	22.4	7.7	9.1	8.4	4.44	1.14
Low product quality	17.1	35.8	21.8	7.4	10.8	7.1	4.44	1.21
Buying on promotion	14.1	36.5	26.7	7.1	8.5	7.1	4.43	1.11
Impulse purchases	13.2	37.0	25.3	7.9	9.7	6.9	4.38	1.11
Lack or insufficient culinary skills	11.1	35.4	25.2	5.6	10.6	**12.1**	4.35	1.15
Buying too much food	6.5	40.9	29.3	8.5	9.5	5.4	4.27	1.05
Bad storage conditions	11.8	30.8	31.5	7.1	10.8	7.9	4.27	1.14
Excessive meal sizes	8.1	32.4	37.2	8.9	9.0	4.5	4.22	1.07

* Rated from 1 to 6, where 1 means "never", whereas 6 means "very often".

Source: results of authors' own research (N=802).

[2] The PROM project (www.projektprom.pl) was financed by the National Centre for Research and Development (NCBR) and was carried out from 1/09/2018 to 31/08/2021 by a consortium of: Polish Food Bank Federation, Environmental Protection Institute, National Support Centre for Agriculture and the Polish Food Technologists Association under the GOSPOSTRATEG Programme 1/385753/1/2018.

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The results suggest that the most common reasons for throwing away food included exceeding the expiry date (4.89), food spoilage (4.88) and preparing excessive quantities of food (4.56). Food spoilage is one of the main causes of food waste reported by respondents in many studies (Piotrowska-Puchała & Stasiak, 2019; Żyromska et al., 2020). Similar conclusions were presented in a report by the Polish Food Bank Federation. Food which was most often discarded (every day or nearly every day) by over a third of the respondents included products in opened packaging with signs of spoilage, products past their expiry date, wilted vegetables and fruit (Federacja Polskich Banków Żywności, 2020) primarily.

Another significant cause of food waste is preparing food in excessive quantities. This is particularly noticeable during holiday seasons, the so-called "long weekends", family reunions or friendly get-togethers. Promoting food sharing is especially noticeable in the run-up to holidays and in the days following the holiday period. Domestic media (Sroczyński, 2022), NGOs (Fundacja Nasza Ziemia) and local government (Kraków.pl, 2021) encourage people to share food rather than throw it away. All these measures, as well as food-sharing centres and other campaigns, do not always produce the desired result. Studies indicate that almost 60% of respondents said that food was often or very often discarded for the aforementioned reason. Excessive portion size is another key factor in food wastage. It is indirectly related to preparing excessive amounts of food. This phenomenon also has psychological foundations, as food is often seen as a way of showing love and care (Szczygieł & Kadzikowska, 2014). It is deeply rooted in our culture, particularly among older generations.

Salient factors also include activities related to the use of marketing tools by food retailers or manufacturers. These include all kinds of promotions such as price promotions or bulk discounts. Retail campaign often prompt consumers to make on-the-spot purchase decisions. Only about 7% respondents admitted that they never wasted food by purchasing groceries on impulse or because they were encouraged by some type of promotion.

What is of relevance in the results obtained is that the rate of the occurrence of the causes for discarding food in all fourteen categories discussed in the study was high. The lowest mean, i.e. excessive portion size, scored 4.22 on a six-grade food waste rate scale. This suggests that social campaigns addressing the issue of food waste should have a much wider reach. An analysis of the rate at which food was discarded, taking into account socio-demographic variables describing the respondents, reveals statistically significant differences across individual categories.

Table 2. Statistically significant differences between the frequency of occurrence of food waste causes and the respondents' place of residence

Description	Significance level	Mann-Whitney *U* test	City		Village	
			Mean*	Standard deviation	Mean*	Standard deviation
Food spoilage	0.017	59689.50	4.93	0.84	4.72	1.02
Exceeding expiry date	0.010	58689.00	4.94	1.03	4.75	1.03
Too large packaging	0.020	59098.50	4.54	1.15	4.27	1.26
Badly planned shopping (no shopping list)	0.011	58510.50	4.53	1.09	4.20	1.25

* Rated from 1 to 6, where 1 means "never", whereas 6 means "very often".
Source: results of authors' own research (N=802).

Gender is a factor which differentiates consumer behaviour in the food market. This stems partly from the fact that women, being concerned with their body mass, strive to achieve optimum nutrition. Consequently, they buy more fruit and vegetables, eat more meals per day, use healthy food processing techniques and avoid fast food (Żurek, 2023). In our study, we did not observe any statistically significant gender-dependent differences with regard to the rate of occurrence of selected food waste causes. The only exception is food purchases prompted by promotion (p=0.048; Mann-Whitney U test 59290.5). Men definitely more often admitted that they threw away food when they purchased products because of promotion. For men, the mean rate was 4.59 (standard deviation 1.02), whereas for women, it equalled 4.37 (standard deviation 1.14).

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Dissimilar results were observed for the age of respondents, another demographic variable. In this case, only the "lack or insufficient culinary skills" proved to be statistically insignificant ($p>0.005$). In all other respects, we see a weak relationship between age and the rate of individual food waste causes. Spearman's rank correlation coefficient was negative for food spoilage, which means that as respondent age increases, food is less frequently discarded due to spoilage. An in-depth analysis indicated that subjects aged up to 30 cited spoilage or exceeding the expiry date as a reason for food waste definitely more often than other age categories. In this group of respondents, factors such as the lack of culinary skills, badly planned purchases, and lack of ideas for using ingredients were a much rarer (relative to other subjects) reason why food was discarded.

Regardless of the reason or frequency, food wastage is invariably linked to financial losses in consumers' households. Growing inflation affects all food product prices. As can be concluded from data in Table 3, recent years have seen a dramatic increase in the prices of goods and consumer services, which directly translated into both consumption levels in households and the quality and quantity of products purchased.

Table 3. Half-year price indexes for consumer goods and services in the years 2017-2023

Year	1st half-year	2nd half-year	1st half-year	2nd half-year
	previous period = 100		corresponding period in the previous year = 100	
2023	107.1		115.0	
2022	108.2	107.9	111.8	116.8
2021	103.2	103.3	103.6	106.6
2020	102.4	100.5	103.9	102.9
2019	101.4	101.4	101.8	102.8
2018	101.2	100.5	101.6	101.7
2017	104.6	100.5	101.9	102.1

Source: authors' work based on GUS (2024).

Soaring inflation in 2022 affected the way in which consumers made their purchases. In the study, 44% of respondents said that their purchases were more often well-planned, focused on buying cheaper products or bargain hunting. Respondents also admitted to buying less food, which could have contributed to less waste. However, the rise in food prices also led to an increase in costs related to food wastage. In the analysed group, 2/3 of the respondents reported that the monthly value of such losses was below PLN 50, both before and after the price surge.

Table 4. Mean monthly financial losses due to food waste in the surveyed households before and after the increase in 2022, according to respondents

Mean monthly financial loss	Before price increase		After price increase	
	N=802	%	N=802	%
PLN 50 and less	514	64.1	511	63.7
PLN 51–100	104	13.0	96	12.0
PLN 101–150	63	7.9	57	7.1
PLN 151–200	83	10.3	81	10.1
PLN 201–250	35	4.4	48	6.0
PLN 251 and more	3	0.4	9	1.1

Source: results of authors' own research (N=802).

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It should be noted that the number of subjects who reported mean monthly financial losses due to food waste at PLN 250 grew from 0.4% before the price surge to 1.1% after the increase in 2022. Financial losses incurred by households vary on account of a number of measures which can be taken as part of household resource management. According to respondents, measures intended to reduce food waste included freezing food to eat later. This measure prevailed in households, both prior to and after price increases (respectively 4.31 and 4.49) – see Table 5.

Table 5. Mean rate* of measures taken to reduce food waste according to respondents

Type of measure	Before the 2022 price increase		Due to the systematic price increase in 2022	
	mean	standard deviation	mean	standard deviation
Freezing food to eat later	4.31	0.74	4.49	0.65
Drawing up a shopping list	3.98	0.95	4.12	0.73
Using products as ingredients to prepare other meals	3.89	0.75	4.15	0.74
Checking the expiry date	3.85	0.94	4.07	0.78
Purchasing less food	3.69	0.97	3.86	0.84
Feeding animals	3.53	1.28	3.77	0.95
Making preserves (pasteurisation)	3.35	1.17	3.62	0.97
Sharing excess food with others	3.25	1.20	3.49	0.95

* Frequency rated on a scale from 0 to 5, where 0 means "never", where as 5 means "very often".
Source: results of authors' own research (N=802).

Another method frequently applied by respondents was using products to prepare other meals. The mean rate of this activity due to inflation and rapidly growing prices in 2022 was 4.15 (standard deviation 0.74). This method was markedly more frequent in comparison to the period before 2022 (mean 3.89, standard deviation 0.75). Households used shopping lists equally often as a method to reduce food waste. Also, in this case, one may notice a difference between the rate of this activity before and after the price increase in 2022. Detailed data is shown in Table 5.

Given that spoilage is a common cause of food waste, it appears that checking expiry dates is a desirable routine. Mean rate of this activity was higher in the period price increase due to inflation (4.07, with a standard deviation of 0.78). Of significance is the fact that consumers are definitely less eager to share excess food with others (mean rate of 3.25 and 3.49, respectively). It would be interesting to see what motivates such behaviour; this could be an area for further research.

As was previously mentioned, shopping lists are one of the ways to reduce food waste. It appears that the strategy employed by consumers to shop for groceries may influence the scale of food waste.

Table 6. Customary food-shopping strategy according to subjects

Shopping strategy	Total	
	N=802	%
I do bigger shopping every few days or less often, and later on I buy other products that I currently need or which I forgot to buy	340	42.4
I do bigger shopping every few days or less often, I generally do not buy other products later on	252	31.4
I do not have a dominant shopping strategy and I often change my behaviour in this respect	121	15.1
I buy food often, as required, and I generally avoid overbuying	68	8.5
I buy food every day	21	2.6

Source: results of authors' own research (N=802).

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Nearly ¾ of respondents said that they did bigger shopping every few days or less often. Among them, 42.4% made additional purchases of the products they needed or forgot to buy, whereas other respondents generally did not make additional purchases later on (Table 6). Subjects who purchased food every day were by far the smallest group, i.e. 2.6%. Meanwhile, 8% of the surveyed declared that they purchased food as required and did not stock any food.

Summary and conclusions

In our analysis, we found that most frequently wasted types of food included ready meals, bread, vegetables and fruit. According to the respondents, most common reasons for discarding food products were exceeding the expiry date, food spoilage and preparing excessive quantities of food (e.g. for holidays); among least frequent reasons the respondents cited excessive meal portions or improper food storage conditions.

High inflation in 2022 influenced the way in which consumers made their purchases. Nearly half of respondents said that their purchases were more often well-planned, focused on buying cheaper products or bargain hunting. The respondents also admitted to buying less food, which could have contributed to less waste. In the analysed group, 2/3 of respondents reported that the monthly value of financial losses related to food waste was below PLN 50 both before and after the price increase.

The main measures applied to limit food waste in the subjects' households included freezing food to eat later, drawing up a list of required products before shopping, using food to prepare other meals, checking the expiry date and purchasing less food. It was also found that during the constant rise in food prices in 2022, the respondents used these measures more often than before.

Basic activities aimed at food waste reduction must be concentrated, e.g. on information campaigns to raise social awareness of the need to prevent food wastage. This was a recommendation made by the President of the Council of Food Bank in Krakow in the course of an inspection titled "Food Waste Prevention" completed by the Supreme Chamber of Control (NIK) in 2021 (Najwyższa Izba Kontroli, 2021). Educational programmes addressed to children and teenagers and implemented in households, pre-schools, and at all levels of education are also essential.

The contribution of the authors

Conceptualization, A.S., K.K. and W.K.; literature review, A.S., K.K. and W.K.; methodology, A.S., K.K.; formal analysis, A.S., K.K., and W.K.; writing, A.S., K.K. and W.K.; conclusions and discussion, A.S., K.K. and W.K.

The authors have read and agreed to the published version of the manuscript.

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MARNOTRAWSTWO ŻYWNOŚCI W POLSKICH GOSPODARSTWACH DOMOWYCH JAKO PROBLEM EKONOMICZNY

STRESZCZENIE: Celem badań było rozpoznanie zakresu i przyczyn marnowania żywności w gospodarstwach domowych oraz skutków ekonomicznych, a także zakresu działań podejmowanych przez respondentów w celu ograniczania strat. Badania empiryczne przeprowadzone zostały w 2023 roku metodą sondażu diagnostycznego z techniką ankiety według standaryzowanego kwestionariusza ankiety i objęto nimi 802 osoby. Z przeprowadzonych badań wynika, że wśród najczęściej wyrzucanych produktów żywnościowych znalazły się dania gotowe, pieczywo, warzywa i owoce. Przekroczenie terminu ważności, zepsucie żywności i przygotowanie zbyt dużych ilości jedzenia wymieniane były jako najczęstsze przyczyny wyrzucania artykułów żywnościowych. W celu ograniczania marnotrawstwa żywności respondenci podejmowali takie działania, jak: zamrażanie i spożywanie w późniejszym terminie, sporządzanie listy potrzebnych produktów przed zakupami, wykorzystywanie produktów do przygotowania innych potraw na ich bazie, sprawdzanie terminów ważności i robienie mniejszych zakupów, przy czym w okresie systematycznego wzrostu cen artykułów żywnościowych w 2022 roku respondenci częściej podejmowali te działania niż wcześniej. Niezbędna jest szeroko zakrojona działalności informacyjna, mająca na celu budowanie świadomości społecznej o konieczności przeciwdziałania marnowaniu żywności.

SŁOWA KLUCZOWE: marnotrawstwo żywności, gospodarstwo domowe, straty finansowe

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