

## **INFLUENCE OF SELECTED FACTORS ON CONSUMER BEHAVIOUR ON EDIBLE FATS MARKET**

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**Abstract:** Questionnaire aimed at estimating factors influencing consumer table spreads, kitchen fats and oils purchase decisions, including their usage in household was executed. Due to consumers opinion, the price of all kinds of edible fats and next their freshness were the major factors. Consumers were selecting fats for dishes usually in compliance with nutritive recommendations.

**Key words:** table fats, kitchen fats, oils

### **INTRODUCTION**

One of the major features of free trade economy is a wide products supply. Food articles including various fats belong to products of daily usage. Edible fats market undergoes very dynamic changes in Poland and a consumer partly affects the direction of these processes. He is surrounded by various information advertising low prices, superiority of the product in comparison to another, information concerning rules of proper nutrition etc. In this context knowledge about consumers' behaviour in relation to food products market is very important. The problem refers to getting to know different economic as well as noneconomic factors influencing purchase decision taken into consideration by a consumer. Economic factors are those which are connected with consumers financial situation and price, quality of product and marketing interactions. Noneconomic factors refer to consumers personality and go as follow: demographic factors, psychological-physiological factors including elements of social-cultural environment as nutritive habits, state of health and type of used diet and family preferences, trust for products brand etc. [Shepherd 1995, Solheim and McEwan 1996, Wirthgen et al. 1998, Lenart and Sikora 2001].

The aim of this study was to outline factors being responsible for consumers behaviour from macro region of southern-western Poland, when taking a decision of edible fats purchase and to outline their hierarchy. Consumers of this part of Poland are characterized by high level of unemployment (25% of population) and many of them come from eastern part of country (this area after the Second World War belongs to Lithuania,

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Belarus and Ukraine). Another aim of this research was to investigate if consumers use edible fats to prepare meals according to the principles of proper nutrition.

## MATERIAL AND METHODS

Studies were executed in summer 2000 using anonymous questionnaires in three cities in south-western Poland: Żary, Żagań and Szprotawa. Selection of research samples was accidental: in 5 markets questionnaires were distributed, 200 of questionnaires in each, 233 were given back of which 215 were qualified for further study. As a place for the study were chosen supermarkets as stores offering various edible fats and visited by large number of customers each day.

Table 1. Characteristics of examined population  
Tabela 1. Charakterystyka badanej populacji

	Specification – Wyszczególnienie	Number – Liczebność	%
Sex Płeć	females – kobiety	173	80
	males – mężczyźni	42	20
Place of residence Miejsce zamieszkania	city from 30 to 50.000 miasta 30-50 tys.	102	47
	city to 30.000 miasta do 30 tys.	73	34
	village – wieś	40	19
Occupation Rodzaj wykonywanej pracy	manual worker pracownik fizyczny	48	22
	mental worker pracownik umysłowy	87	41
	housewife – gospodyni domowa	48	22
	unemployed – bezrobotny	32	15
Education Wykształcenie	primary/technical podstawowe/zawodowe	18	8
	secondary – średni	130	61
	higher – wyższe	47	22
	post secondary school policealne	20	9
Number of family members Liczba członków rodziny	1-2 people – 1-2 osób	57	27
	3 people – 3 osoby	45	21
	4 people – 4 osoby	68	31
	5-6 people – 5-6 osób	17	8
	more than 6 people powyżej 6 osób	28	13
Own opinion about financial situation Ocena własnej sytuacji materialnej	very good – bardzo dobra	12	6
	good – dobra	30	14
	average – przeciętna	70	33
	bad – zła	103	47
	together – razem	215	100

Questionnaires contained questions concerning edible fats and their usage in the households. The questions concerned such fats as table fats (table margarine, mix of margarine and butter, butter and creamy butter, mix butter and oil), kitchen fats (kitchen margarine, lard, fats for frying), edible oils like vegetable oils and olive oil, fats for preparing salads (mayonnaise and cream). Questionnaires also contained questions concerning factors influencing purchase decision. For table fats the influence of taste, freshness, consistency, price, nutritive value, fat content, advertisement, kind of packing and brand mark was evaluated, while in questions concerning vegetable oils we asked about taste, freshness, application area, nutritive value, packaging, advertisement, brand mark and price. In case of kitchen fats the influence of taste, price, application area, fat content, freshness, nutritive value, kind of packaging, advertisement and brand mark on purchase were analysed. Questions about sex, residence, occupation, education, number of family members and financial situation were placed in the general part of the questionnaire. The characteristics of the examined population is presented in Table 1.

Application of different fats in the preparation of various meals was expressed as the percentage of respondent answers.

Hierarchy of factors influencing purchase decision was expressed as a percentage reflecting how often the feature or the factor was indicated by respondent in the first, second or third place. The total sum of these three places expressed in percentage was also calculated. Correlations of qualitative features were studied using "chi-square" test.

## RESULTS AND DISCUSSION

Questionnaires included questions concerning table fats, kitchen fats, edible oils and fats for preparing salad dressing. The point of interest was which fats consumers use for buttering bread, frying meat dishes, fish, eggs and flavour dishes, preparing salad dressing and cakes and also for preparing cream for cakes and layer cakes.

Results of the studies are presented in Table 2. Table margarine spreads (41%), next butter and creamy butter (24%) and butter with addition of oil (15%) were mostly used for buttering bread.

Meat dishes were prepared using lard for frying by 32% of all respondents, 25% used oil only for this purpose and 23% chosen fats for frying, whereas, fish were fried using oil by 91% of questioned people and 6% used fats appropriate for frying.

Scrambled eggs were usually prepared on margarine (63%) and rarely on butter or oil (12%).

Pastry dishes were usually fried on oil (40%), lard (26%) and fats appropriate for this purpose (21%).

For baking cakes and cookies a special margarine and vegetable butter were used by questioned persons (49%), various fats (9%), oil only (6%) and pure butter (4%). Creams for cakes and layer cakes were prepared from cream (35%), butter (18%) and margarine (12%). A particular group of the respondents could not specify which fats they used for preparing particular dishes. It was about 6% of the questioned people when we asked about buttering bread and frying pastry dishes and up to 26% when we asked about preparing creams for cakes and layer cakes. Generally very few people did not use fats at all in some kinds of meals or did not eat those dishes.

Table 2. Utilization of edible fats for preparing dishes (% of answers)  
Tabela 2. Wykorzystanie tłuszczów w technologii potraw (% odpowiedzi)

Kind of fat Rodzaj tłuszczu	Bread Pieczywo	Fried – Smażone				pastry meals potrawy mączne	Salads Sałatki i surówki	Cakes Ciasta	Creams Kremy
		meat mięso	fish ryby	eggs jaja					
Table margarine Margaryna stołowa	41	2	–	63	6	–	14	12	
Margarine with butter Margaryna z dodatkiem masła	12	–	–	–	–	–	–	–	
Butter and creamy butter Masło i masło śmietankowe	24	–	–	12	1	–	4	18	
Butter with addition of oil Masło z dodatkiem oleju	15	–	–	–	–	–	–	–	
Kitchen margarine Margaryna kuchenna	–	–	–	–	–	–	35	–	
Lard – Smalec	–	32	–	6	26	–	–	–	
Fats for frying Tłuszcze do smażenia	–	23	6	–	21	–	–	–	
Oil – Oleje	–	25	91	12	40	54	6	–	
Olives oil – Oliwa z oliwek	–	–	–	–	–	5	–	–	
Mayonnaise – Majonez	–	–	–	–	–	35	–	–	
Cream – Śmietanka	–	–	–	–	–	6	–	35	
Lack of habits Brak zwyczajów	6	12	–	7	6	–	9	26	
Not used – Nie używa	2	6	3	–	–	–	32	9	

Discussing the results of that part of study it should be noticed that consumers use fats usually corresponding to principles of proper nutrition. Especially fats for frying fish, meat and pastry products were used properly.

The usage of lard as a frying fat is quite common. It is considered as fat proper for frying because of its sensory features and heat resistance, but it is also considered as unfavourable from nutritional point of view because of cholesterol content. A large part of consumers applied vegetable fats or vegetable and milky fat blends for buttering bread. In nutritional respect a positive change, in comparison with earlier investigations executed on the Poznań and Western Poland market [Flaczyk and Korczak 1998, Flaczyk and Korczak 2000], was found. They refer to a higher consumption of butter enriched by addition of oil and reduction of pure butter consumption. Enlargement of table margarines consumption could, on the one hand, prove an increment of consumers' nutritional consciousness, but on the other hand, to their poor financial situation, which was declared by 47% of respondents. It seems that financial situation of the Polish society is getting worse and more than 22% of the questioned people, as it was stated by Rejman [1997], consider their own financial situation being bad. The results of investigations can be compared because social-economic profile of people examined by Rejman [1997] and the one from the present work are similar.

The importance of relationship between social-economic factors and selected parameters describing consumers' behaviour on fats market is shown in Table 3. The data from Table 3 demonstrate that there is a significant correlation between consumers

Table 3. Relationship between social-economic factors and fat type used in household (values of  $\chi^2$  test)Tabela 3. Zależność pomiędzy czynnikami socjo-ekonomicznymi a rodzajem tłuszczu stosowanym w gospodarstwie domowym (wartości testu  $\chi^2$ )

Fats Tłuszcze	Sex Płeć	Education Wykształcenie	Financial status Sytuacja materialna	Numbers of family Liczba osób w rodzinie
Table spreads Tłuszcze stołowe	5.99	37.24*	113.87*	42.05*
For frying meat Do smażenia mięsa	4.95	33.23*	34.16*	18.16
For frying fish Do smażenia ryb	4.18	11.22	19.37	17.94
For frying pastry meals Do smażenia wyrobów z mąki	11.26	44.31*	31.13	28.54
For cakes – Do ciast	8.54	40.74*	44.14*	37.21*
For creams – Do kremów	8.43	31.11	59.11*	31.63
For salads Do sałatek i surówek	7.63	36.15*	27.11	25.22

\* value of  $\chi^2$  test statistically significant for  $p < 0.05$ .\* wartość testu  $\chi^2$  istotna przy poziomie  $p < 0,05$ .

education (table spreads, fats for frying meat and pastry, fats for cakes and salads) or their financial situation (table spreads, fats for frying meat, fats for cakes and creams) and selection of edible fats used mostly in kitchen. This dependence also exists between numbers of family and purchase decision for table spreads and baking fats. Therefore, education, financial status and family members number are important factors influencing purchase decision. Indeed, for numerous families the price is often a critical factor during shopping.

The influence of the most important qualitative factors and marketing factors on particular kind of edible fats purchase was being estimated in this study. Each of respondents had to outline three, in his opinion, most important factors and give their order. Hierarchy of factors influencing purchase decision of table fats is illustrated in Figure 1. Price of product is the most important factor in this group of fats in the examined population of consumers. This factor was pointed out by 80% of the questioned people and 32% of them put it in the first place. Freshness (55%) was also very important for those consumers, then consistency (50%) and taste (38%). It was emphasized that nutritive value, advertising, type of packaging and brand mark were less important for them.

Price is also a critical factor for 71% of the questioned people when buying vegetable oils (Fig. 2). In the second place there are freshness (54%) and application area of oil (53%). Next factors were nutritive value, advertising and trust for brand mark.

The hierarchy of factors influencing kitchen fats purchase decision is shown on Figure 3. Consumers pay their attention in this case to price (76%) and application (66%), freshness, nutritive value and advertising.

Qualitative and marketing factors were examined in questionnaires simultaneously. Actual picture of consumer's requirements was obtained and the price was the most important factor in this study. Among qualitative factors the most important one is freshness. Świda and Sikora [1999] and Kowrygo et al. [1997] also reported that among qualitative parameters, freshness was most frequently mentioned, both in the group of milk products as well as of all the examined food products.

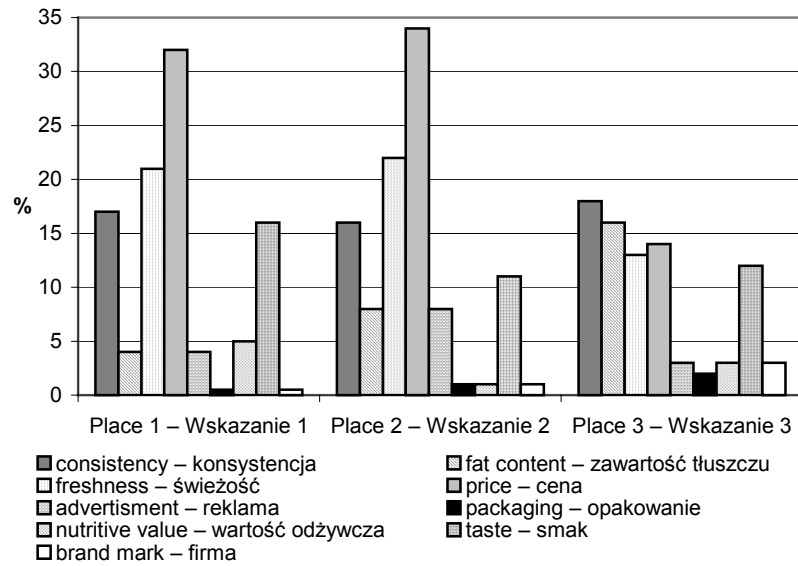


Fig. 1. Hierarchy of factors influencing table fats purchase decision  
Rys. 1. Hierarchia czynników wpływających na decyzję zakupu tłuszczów stołowych

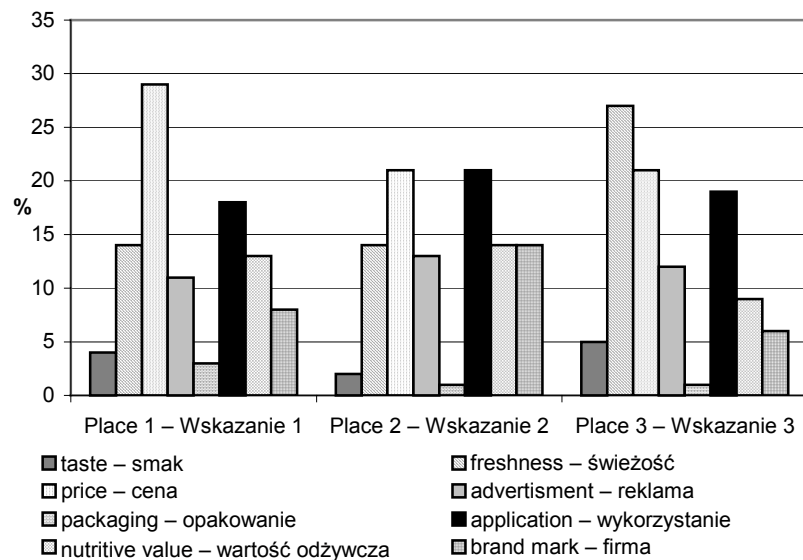


Fig. 2. Hierarchy of factors influencing vegetable oils purchase decision  
Rys. 2. Hierarchia czynników wpływających na decyzję zakupu olejów

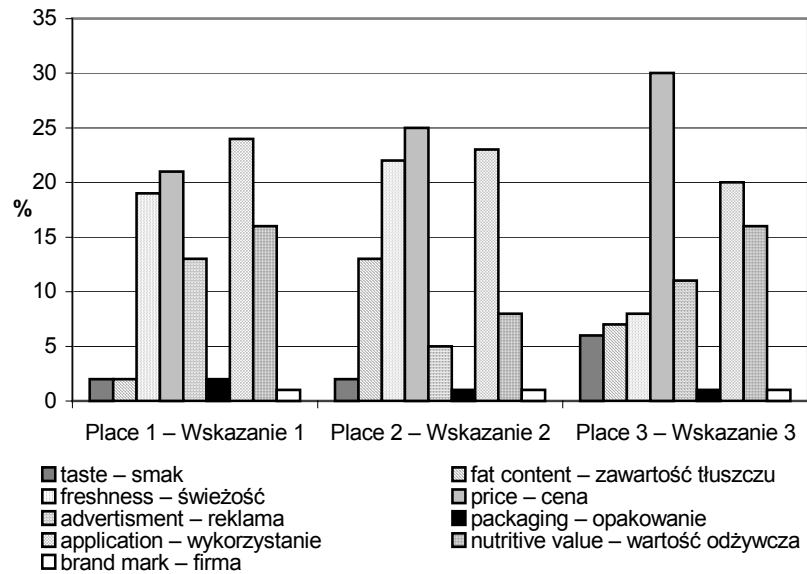


Fig. 3. Hierarchy of factors influencing kitchen fats purchase decision

Rys. 3. Hierarchia czynników wpływających na decyzję zakupu tłuszczów kuchennych

As it results from the received data, taste is a less important factor when considering edible fats, which is understandable especially when it concerns kitchen fats and vegetable oils. They are not consumed directly; they are just used as an addition for dishes or for frying or baking. Consumers reluctantly point to advertisement as influencing food products purchase decision factor. Świątkowska and Krajewski [1997] have observed this in case of table spreads. In the study discussed above, 15% of all the respondents have admitted that advertisement had influenced their purchase decision of table fats, kitchen fats – 29% of questioned people and oils – 36%. On the contrary, it is known that the idea of advertising activity is to impose an impact on consumers' subconsciousness and that is why they enlarge sale of particular products.

## CONCLUSIONS

Results obtained in this study indicated that in the region characterized by a high degree of unemployment economical factors play an important role creating consumer behaviour on food products market. The most important factor influencing purchase decision of all kinds of edible fats, in consumers opinion, is price. Taste of product was a significant factor for purchasing table spreads only, whereas sensoric features were less important during purchasing fats for frying, baking and preparing salads.

A positive change of consumer preferences was observed during this study in respect to purchase of vegetable fats versus animal origin fats. Vegetable oils, margarine and butter enriched with addition of oil were readily purchased and applied. So, general-

ly, consumers examined during this study select fats for dishes taking into consideration nutritive recommendations.

Despite of these positive changes a further nutritive education of consumer concerning, first of all, table fats and fats suitable for frying, is necessary.

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## WPLYW WYBRANYCH CZYNNIKÓW NA ZACHOWANIA KONSUMENTA NA RYNKU TŁUSZCZÓW JADALNYCH

**Streszczenie:** Wykonano badania ankietowe mające na celu ocenę czynników wpływających na decyzję zakupu tłuszczów do smarowania pieczywa, tłuszczów kuchennych i olejów oraz ich wykorzystania w gospodarstwie domowym. Najważniejszym czynnikiem, w opinii konsumentów, była cena wszystkich rodzajów tłuszczów jadalnych, a następnie ich świeżość. Smakowitość była znaczącym czynnikiem jedynie dla tłuszczów stołowych. Konsumenty dobierali tłuszcze do potraw na ogół zgodnie z zaleceniami żywieniowymi.

**Słowa kluczowe:** tłuszcze stołowe, tłuszcze kuchenne, oleje

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