



Evaluation of Eating Patterns with Different Methods: The Polish Experience

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The implementation of a market economy at the beginning of the 1990s has changed Polish consumers. This paper describes results of different methods which are used to evaluate food consumption, including eating patterns, in this time of transition.

Except for the significant decrease of dairy products and increase of vegetable oils the pattern of the menu in Poland remains very traditional. The differences between the previous and present situation are based on changes in the organization of shopping and the possibilities of preparing meals.

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INTRODUCTION

The implementation of a market economy at the beginning of the 1990s has significantly changed Polish consumers. Despite a wide choice of products and services, the average Polish family is economically aware and cautious in its decision-making processes in the present situation.

The purpose of our study was to describe the results of different methods which are used to evaluate food consumption, including eating patterns, as well as to identify consumer preferences and food habits in this new market economy.

METHODOLOGY

Data on food consumption were obtained from food balance sheets and household budgets. Data on eating patterns and food habits were collected in individual surveys.

Food balance sheets estimate quantities of food available for consumption and do not describe the quantities which are actually consumed. Estimates are based on the concept that the total quantity of food produced added to the total quantity imported, and adjusted for changes in stocks, equals the total available supply. The amount available for human consumption is estimated by subtracting the quantities exported, fed to livestock, put to manufacture or lost during storage and transport. Food consumption per capita is calculated by dividing the amount available for human consumption by the total number of inhabitants. Food balance sheets can

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be used as a source of general information on average consumption. Such data are regularly published in the Statistical Yearbook of the Central Statistical Office in Warsaw.

Household budget surveys are also published by the Central Statistical Office. These surveys are based on a rotating sampling method, which allows for a generalization of the results to the whole population within a margin of error. A monthly rotation of households introduced in 1993 results in different samples participating each month. In the second year half of the sample of the same month of the first year participates again while the same number of new households enter the survey for the first time. This procedure is repeated for four consecutive years. After that period the whole sample is replaced. In 1995, 2700 households were included per month or 32 400 per year.

Since January 1993, six different socio-economic groups have been included: households of employees, employees/farmers, farmers, self-employed persons, retired persons or pensioners and persons living on non-income sources of maintenance other than retirement or disability pension. Before January 1993 only four socio-economic groups had been included and samples had rotated only every 3 months. During the survey period households have to keep a special diary and record income and expenditure. Income includes farm product and profits from self-employment. Expenditure includes acquisition of products, services or immovables, repayment of credits or loans, installments, saving deposits, securities, alimony, insurance fees, taxes and values, products or services received free of charge. Agricultural households also include the expenses for running the farm.

Main differences between food consumption data of household budget surveys and macro-economic data of food balance sheets exist in the way how self-produced food and food consumed outside of the home is recorded.

Five surveys on eating patterns and food habits were carried out by questionnaire during the years of 1991–1996 (Kowrygo, 1996). In each survey 500 questionnaires (see Appendix 1) were distributed to randomly sampled households in the urban and rural population of central Poland including Warsaw. Questions were asked about habits and attitudes towards total food intake, meat, milk, oil and fats as well as fish and fruit products. Of the questionnaires issued, 42–53% were returned. Analyses were conducted using SPSS systems.

RESULTS

Based on the results of food balance sheets, present food consumption in Poland can be described by a relatively high consumption of cereals and potatoes and a low consumption of fish and fruit (Table 1). Consumption of butter, milk, dairy products and eggs has decreased in the years after 1989. On the other hand a rapid and regular increase can be noted for the consumption of vegetable oil and—but on a much smaller scale—also of fruit. Not shown in the table is the fact that the consumption of drinks (mineral water, juices, beer) has significantly increased. This is linked to the development of the respective food subsectors. There are still significant differences between the various socio-economic groups, particularly between urban and rural households as well as between employed and unemployed persons (Table 2).

TABLE 1
Food consumption in Poland, 1980–1995 (kg/capitalyear)

Food products	1980	1989	1990	1991	1992	1993	1994	1995	% of change 1989*/1995
Cereals	127.0	117.0	115.0	116.0	119.0	122.0	120.0	120.0	2.6
Potatoes	158.0	143.0	144.0	140.0	144.0	147.0	136.0	138.0	−3.5
Vegetables	101.0	116.0	119.0	126.0	116.0	122.0	116.0	120.0	3.4
Fruit	37.7	31.2	28.9	37.2	40.7	45.2	34.6	40.9	31.1
Meat products	74.0	68.6	68.6	73.2	70.3	67.5	62.6	63.4	−7.6
Fish products	8.1	6.1	5.4	6.2	6.4	6.7	6.7	6.5	0.6
Vegetable fat	7.8	8.8	7.6	8.4	10.4	11.8	12.8	14.4	63.6
Animal fat	8.1	8.2	8.2	8.6	9.0	8.4	7.4	7.2	−12.2
Butter	8.9	8.8	7.8	6.3	5.2	4.5	3.9	3.7	−58.0
Eggs	11.1	9.7	9.5	8.7	8.6	7.8	7.3	7.7	−20.6
Milk products	262.0	260.0	241.0	231.0	217.0	209.0	202.0	201	−22.7
Sugar	41.4	46.9	44.1	35.4	36.3	41.3	39.4	41.9	−10.7

* 1989 = 100%.

Calculated from Rocznik Statystyczny GUS, 1996.

TABLE 2
Food consumption in different households in Poland, 1994–1995 (kg/capitalyear)

Food products	Households						
	Employees	Employees–farmers	Farmers	Pensioners and retired	Self employed	Unemployed	
Cereals	81.8	105.8	114.6	112.1	74.5	82.7	
Potatoes	81.9	102.5	109.9	112.3	75.8	84.9	
Vegetables	82.1	116.6	121.4	140.8	75.5	95.8	
Fruit	87.8	107.3	119.0	140.2	76.1	95.2	
Meat	59.4	74.3	81.5	86.0	58.4	52.2	
Fish	60.1	71.8	81.4	86.2	58.1	55.3	
Butter	40.8	37.8	40.4	49.8	47.3	27.6	
Animal fat	42.2	39.2	49.1	52.3	51.7	28.0	
Eggs (N)	54.1	62.4	73.8	69.2	56.4	44.4	
Milk (litres)	55.4	63.4	74.3	71.0	58.2	42.2	
Cheese	5.0	4.1	4.9	7.1	5.4	3.7	
Sugar	4.9	4.0	4.8	6.7	5.3	3.7	
	4.0	4.3	4.4	5.2	4.6	2.6	
	3.0	3.2	3.2	4.2	3.7	1.6	
	2.6	5.4	7.3	5.0	1.9	3.8	
	2.5	4.9	6.8	4.7	1.9	3.7	
	10.3	9.6	9.8	14.3	9.1	9.7	
	11.2	10.9	10.4	15.2	10.1	11.0	
	152.9	197.9	222.5	208.9	149.4	129.4	
	158.3	195.8	223.8	215.4	159.0	139.2	
	104.5	189.4	204.0	168.5	106.4	104.4	
	98.3	177.0	192.8	162.4	103.6	98.3	
	10.5	11.3	10.3	13.4	11.5	7.1	
	10.1	10.3	9.2	12.8	12.1	6.2	
	25.4	34.7	40.4	38.3	24.8	22.0	
	23.1	32.2	34.5	35.3	23.5	20.7	

* 1994.

** 1995.

Calculated from Budżety gospodarstw domowych GUS, 1995, 1996.

Calculations of the average nutrient intake indicate some deficiencies in energy and a low intake of many important nutrients, particularly calcium, protein and iron. Surveys on consumers' behaviour confirm an increase of nutritional knowledge and a better understanding of the relations between nutrition and health.

With regard to the results of the questionnaires of food habits (Kowrygo, 1996) most of the consumers think that their nutritional needs are fully covered. This is especially important as satisfaction of personal preferences can only take place once essential energy requirements have been met and living standards have been stabilized. Approximately half of the subjects indicated that their food expenditures amounted to over 50% of their total expenditures. Only 2–3% of the families spent less than 20% of their budget on food. The investigation confirmed the well-known gender role where food supply and preparation are women's domain. It can, however, be noted that women's duties decrease as their education level increases.

Other food habits observed in the new Polish economy can be summarized as follows:

- To plan the menu days ahead is not the norm but the inclination to do so increases with the level of education;
- In spite of the changes of the market and the new rules for job organization, the pattern of the menu is very traditional in Poland: breakfast means sandwiches, late lunch means soup and a main course. . . . Increased levels of education are associated with a decrease in eating frequency as well as with more regular eating hours.
- Sunday meals differ significantly from weekday menus: they are more varied and more carefully prepared. These characteristics differ according to family size; more carefully prepared dishes were observed in one and five member families, while richer meals are found in four member families. More varied meals, more attractive deserts or a higher meat consumption on Sundays does not depend on family size.
- Most participants are shopping daily at the same place. Retail shops or wholesale markets were chosen only by one of five consumers.
- Income influences consumer behaviour in food choice. As might be expected, low income results in less frequent purchases of pre-packed products. Consumers who have a full and free choice, prefer to purchase raw and unprocessed food.
- Almost half of the participants like to purchase unknown foods, and the inclination to do so increases with the level of education.
- Questions on individual preferences indicate that food freshness is one of the most important factors influencing consumer decisions to buy a particular product irrespective of the level of education, income or place of residence. The next significant factors are taste, impact on health, price vs. quality and flavour. Education levels increase the importance of impact on health, price vs. quality, preservation methods, personal knowledge of nutrition and old family habits.
- Health aspects, family size and personal health status are more important for consumer decisions than the care for the personal appearance.
- Energy value, salt content of food and food losses are given relatively low importance.
- Respondents are of the opinion that advertising does not much influence their decisions.

The better supply and the wider choice of food products since 1989 have not significantly changed eating patterns. The differences between the previous and the

present situation are based on changes in the organization of shopping (it is now possible to go shopping more frequently and to buy smaller amounts) as well as in the possibilities of preparing meals (it is now possible to prepare more varied dishes and to use more fresh food).

The cost for food represent a high percentage of the total household budgets. Most Polish families presently pay more attention to quality vs. price in their consumer decisions than they used to do previously.

CONCLUSIONS

The following conclusions can be drawn from these surveys:

- (1) The consumption of vegetable fats, fruit, vegetables and poultry is increasing in Poland, while the consumption of milk and milk products is decreasing. This has resulted in changes in energy and nutrient intakes;
- (2) The improvement in market supply has not noticeably changed family food habits apart from purchasing more often but smaller amounts;
- (3) The most important factors influencing consumer decision are freshness, taste and the impact on health;
- (4) The important factors are: price in relation to quality, aroma and food preservatives; and
- (5) The increasing level of education is an important factor in changing Polish eating patterns.

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APPENDIX 1

Selected questions from questionnaires related to eating patterns.

1. Are your food needs fully covered?
2. What part of total expenditures is spent on food?
3. Who is mainly taking care of food and nutrition at home?
4. Do you have a habit to plan menu for a couple of days ahead?
5. Did the market offer improvement/enlargement influence your consumption pattern including quantity and quality?
6. What tradition and eating frequency are maintained in your family?
7. Do you have a habit of selecting your menu according to certain rules e.g. breakfast—sandwiches, etc.?
8. Do you pay frequent visits to fast-food gastronomy (e.g. McDonalds, Burger King, etc.)?

9. What are the main factors influencing the change of your present way of nutrition?
10. What kind and form of products do you select for breakfast?
11. What is your typical lunch pattern?
12. When and where do you consume your warm meals?
13. What is a typical composition of warm meals?
14. What kind of beverages are accompanying your daily meals?
15. Do you pay special attention toward nutrition of your children?
16. Do Sunday meals differ significantly from weekday menus?
17. What are the factors influencing the characteristics of these meals?
18. To what extent the self-supply as well as preparation of home preserves are common in creation of your food habits?
19. Do you have any preferences for regularity and quantity of food consumption?
20. What kind of purchasing places are most common for your shopping?
21. What kind of products do you prefer when shopping (raw, unprocessed, ready to eat, etc.)?
22. Do you like to experiment in shopping and in the preparation of meals?
23. What are your individual preferences in food purchasing choice?