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## **WORLD AND POLAND PER CAPITA CHEESE CONSUMPTION**

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**ABSTRACT.** Cheese represents vast share in consumption of dairy products as one third of collected milk is used by cheese-makers. This is one of the rare dairy products, which per capita consumption increases even in developed countries. The paper investigates changes in per capita consumption and links them with projections for Polish cheese-making industry and consumers.

**Key words:** cheese, consumer, consumption, dairy products, dairy

### **Introduction**

Cheese consumption makes significant contribution to healthy balanced diet. Low glycemic index, high protein content, vitamins: A, D, B6, B9, minerals and variety of flavours and sorts cause that cheeses are a very attractive component of meals (**National Dairy Council** 2005). Cheeses have also some features desirable nowadays that qualify them to convenient and one of the most natural foods (**Sznajder et al.** 1998), but there is the question what is the consumer's response to enlisted and perceived qualities. This aspect consistent with the paper's purpose seems to be crucial in answering the question what are the projections for cheese-making industry and overall Poland consumption?

Some assumptions emerge from answers to detailed questions like: is cheese appreciated by consumers worldwide? What is the level of cheese consumption in Poland and neighbouring countries? Why do we not like cheese? How often do we eat cheese? When? Do we manufacture cheese at home?

Presented data are split into three sections:

- 1) global background describing world per capita consumption,
- 2) European perspective presenting EU consumption,
- 3) Poland per capita consumption.

Last part is devoted to conclusions.

## Materials and method

Results presented are obtained by analysis of data from two main sources:

- 1) national statistics concerning per capita consumption,
- 2) country survey devoted to food consumption habits and customs based on a questionnaire; sample for Poland was selected due to age, gender, place of residence; research was conducted in 2003; 1663 questionnaires were submitted.

Collected data were supplemented by information from ACNielsen and foreign trade and agricultural agencies like IDF and ZMP.

## Results and discussion

### Global background

World consumption is highly differentiated. Core countries from Western Europe and Scandinavia exceed 15 kg per person annually. This is mainly because of historical reasons. In the past, communities required stable, energetic kinds of foods needed during wars and migrations. However, the cradle of cheese is named Mesopotamia anyway Italian and French cuisine disclosed magnificence of flavours, delicious varieties of cheese and developed culinary art of processing and preparing cheeses on every occasion. Some famous European types like Brie originate from VIII century, some are much older. Also natural conditions were favourable to dairying, so the main ingredient was plentiful. Knowledge about cheese processing was secret so proliferation of cheese manufacturing was limited. Even today ripening conditions of some cheeses or milk composition are so peculiar that the cheese can be manufactured only in a restricted area. Nowadays there are some attempts to license production of some well known industrial types of cheese like Gouda or Edam. Bordering countries with core of EU indicate lower level of cheese consumption but the impact of high consumption seems to affect popularity of cheese in these countries. The same, Egypt with economy and tourist links with Western Europe represents high consumption. Next region with pretty high consumption of cheese is North America represented by Canada and USA, where dairy farming finds very favourable, natural conditions and plenty of land. Grace to development of food service and advertising campaigns focused both on generic products and brands that enhanced nutrition knowledge cheeses have gained more interest from consumers' side. Also Australia and Oceania with New Zealand and Argentina in South America capitalize on convenient natural conditions (**Sznajder** 1999). The rest of the world represents low (1-5 kg per capita) or very low (below 1 kg) consumption. These are the areas without dairy farming tradition, with unfavourable climate and economic constraints (Fig. 1).

It must be mentioned that cheese consumption depends on (**Kaiser** 2005):

- 1) retail own price,
- 2) retail price of substitutes,
- 3) per capita disposable income,
- 4) current and past generic advertising expenditures,

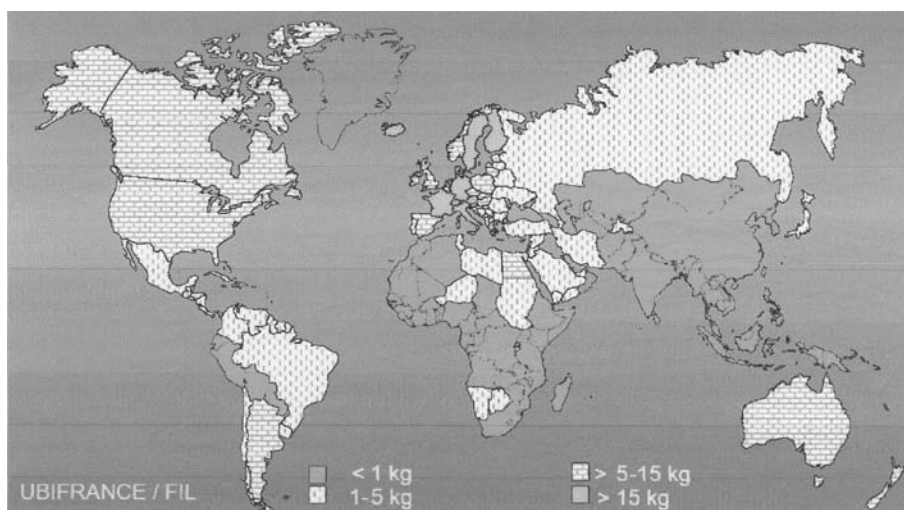


Fig. 1. Average cheese consumption per capita in 2003 (based on IDF data – [www.fil-idf.org](http://www.fil-idf.org))

Ryc. 1. Średnie spożycie serów per capita w 2003 roku (na podstawie danych Międzynarodowej Federacji Mleczarstwa – [www.fil-idf.org](http://www.fil-idf.org))

- 5) seasonality variables,
- 6) expenditures on food consumed away-from-home,
- 7) percentage of population between 20 and 44 years old,
- 8) percentage of Hispanics in population.

There are major economic indicators that affect overall per capita consumption as cheese does not belong to basic goods like milk or bread (Fig. 2). In turn some intrinsic variables (as opinions, attitudes, habits) decide on consumption structure and purchase

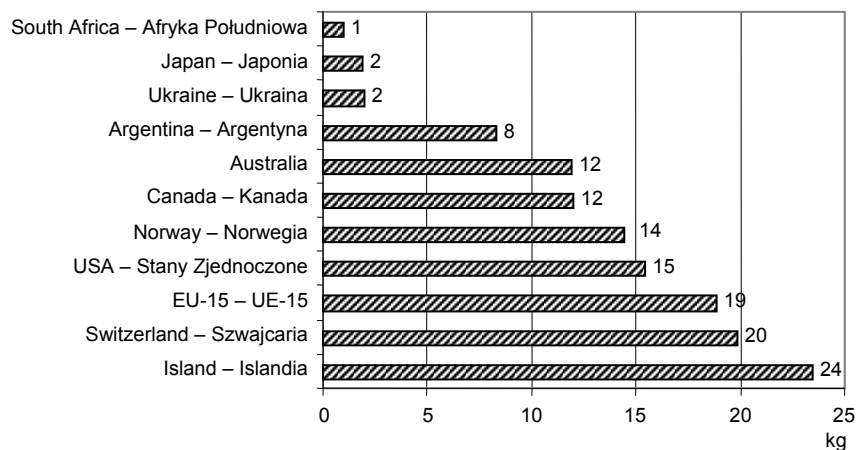


Fig. 2. Essential differences in per capita cheese consumption level in 2003 (based on **Richarts** 2004)

Ryc. 2. Znaczące różnice w poziomie konsumpcji sera per capita w 2003 roku (na podstawie danych **Richartsa** 2004)

of selected products (brands, varieties). According to this fact we observe strong interest in cheeses in countries with relatively high purchasing power (the consumption is concentrated in Western Europe and North America), so disposable income is precondition but some emerging economies like Russia, Ukraine and China with annual GDP growth at 8% in next years are prospective markets with the highest dynamics of consumption.

### European perspective

Considering EU consumption we observe inside diversification emerging from current and past economic situation and characteristic of cuisines (Richarts 2004). Greece with France, Germany and Denmark represent the highest consumption in EU (Fig. 3). As we look inside the structure we find out significant differences as the Greeks prefer feta type of cheese, France has vast consumption of mould cheeses, Italy is for grana cheeses like Parmigiano Regiano, Germany and Denmark lean on hard cheeses like gouda and some with mould inside.

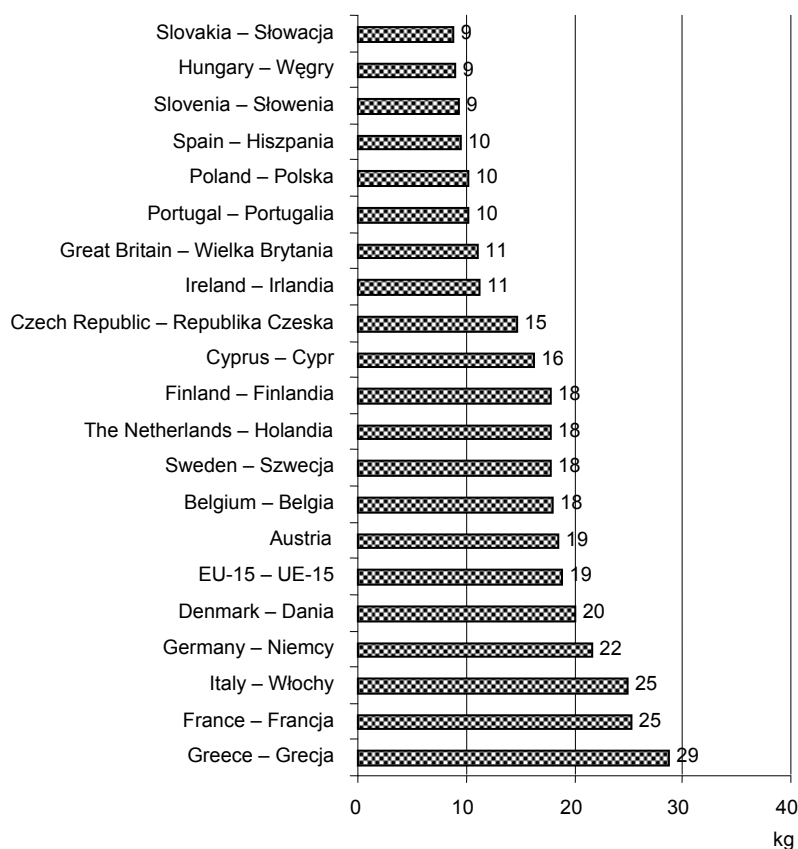


Fig. 3. Cheese consumption per capita in EU in 2003 (based on Richarts 2004)

Ryc. 3. Spożycie per capita w Unii Europejskiej w 2003 roku  
(na podstawie danych Richartsa 2004)

On the other hand there are countries that entered EU in 2004 with lower incomes and low consumption dominated by industrial types of cheeses i.e. generic types for example quark in white, fresh cheeses, Gouda or Edam in hard cheeses, but also with some unique characteristics. Per capita we eat 10.3 kg of cheeses – that is 54% of average for EU-15 (Fig. 4), our close neighbours, Germans eat twice as much as we do (Richarts 2003) (Fig. 5). What is interesting that our consumption from 1997 rose by

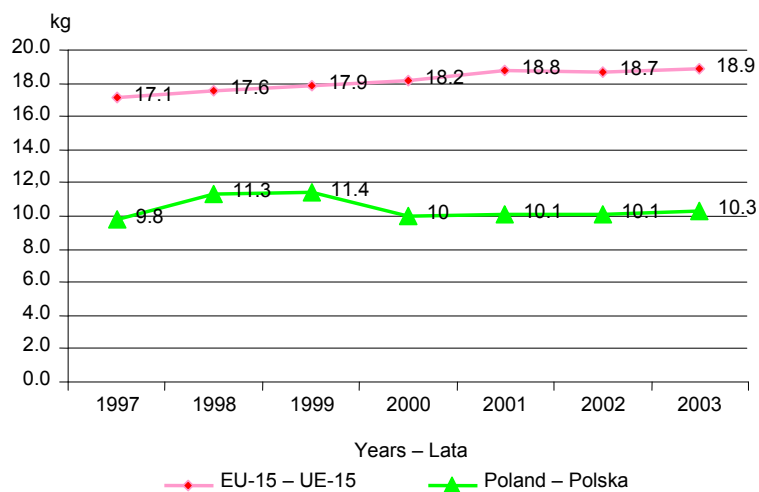


Fig. 4. Cheese consumption per capita in EU-15 and Poland (1997-2003)  
(based on Richarts 2004)

Ryc. 4. Spożycie sera per capita w Unii Europejskiej-15 i w Polsce  
(1997-2003) (na podstawie danych Richartsa 2004)

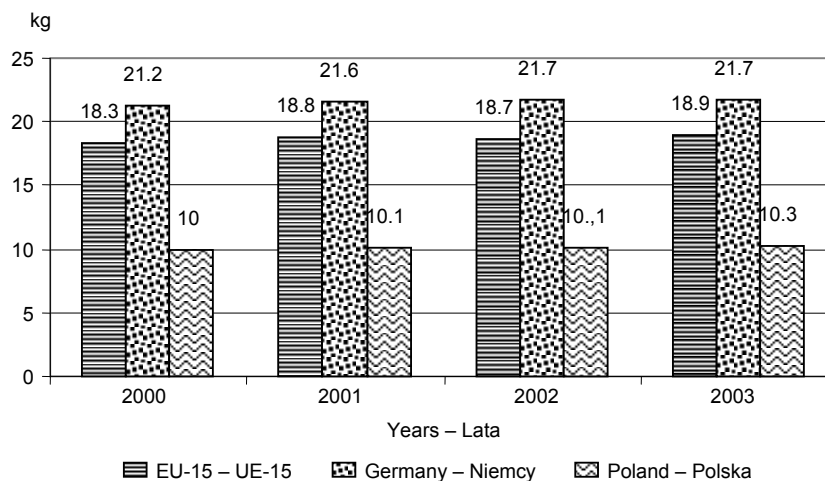


Fig. 5. Cheese consumption per capita in EU-15, Germany and Poland (2000-2003)  
(based on Richarts 2004)

Ryc. 5. Zmiany w konsumpcji sera per capita w Unii Europejskiej, Niemczech  
i Polsce (2000-2003) (na podstawie danych Richartsa 2004)

5% by contrast to European average which increased by 11%. Main factor for such a development was economic crisis starting from year 2000 and relatively lower prices for substitutes like meat.

### Consumption in Poland

Data from ACNielsen retail panel (**Chrostowska 2005**) depict cheese market in quantitative dimension. Retail market is worth 2.5 billion zł. Traded volume amounts to 184 thous. t and belongs to the largest tracked food categories next to vodka and beer.

Our consumption is dominated by fresh cheeses, similar situation is in the other accessing states, as the production of quark – the most popular fresh cheese is easy and during communist times this type was the easiest available and later, due to shrinkage of food, population adjusted to manufacturing it at homes. Now the share of white-fresh cheeses (quark, cream cheese, cottage cheese) in retail sales amounts to 54% in terms of volume but in terms of value is much lower as the price for 1 kg of generic quark is low, which affects the whole category (Figs 6, 7). However, quark is the most important cheese in the category even in terms of value it is worth mentioning, that this category consists also of high value added products like cream cheeses with sophisticated ingredients, which can be misleading for future projections on income impact for this group. 29% of retail sales belong to hard cheeses (**Górski and Krajewski 2005**), as they are not produced at home but predominantly used in food service for preparing various types of casseroles. Higher value share (33%) reflects high price per 1 kg. Processed (melted) cheeses possess 14% of market volume and 17% of market value. The difference between volume and value share is not as distinctive as some private labels products popular in the category are very cheap. The best overall relation for processors between value and volume share is observed by mould cheeses, which are pretty expensive.

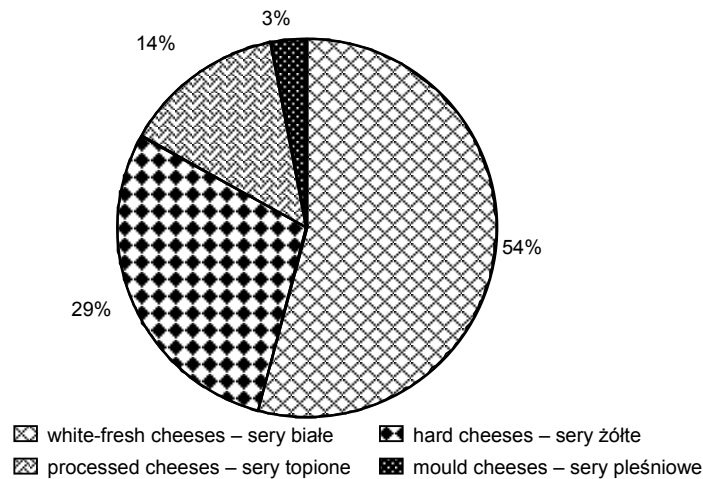


Fig. 6. Volume structure of cheese market (Dec. 2003-Nov. 2004)  
(based on ACNielsen data)

Ryc. 6. Struktura ilościowa rynku sera (grudzień 2003-listopad 2004)  
(na podstawie danych z ACNielsen)

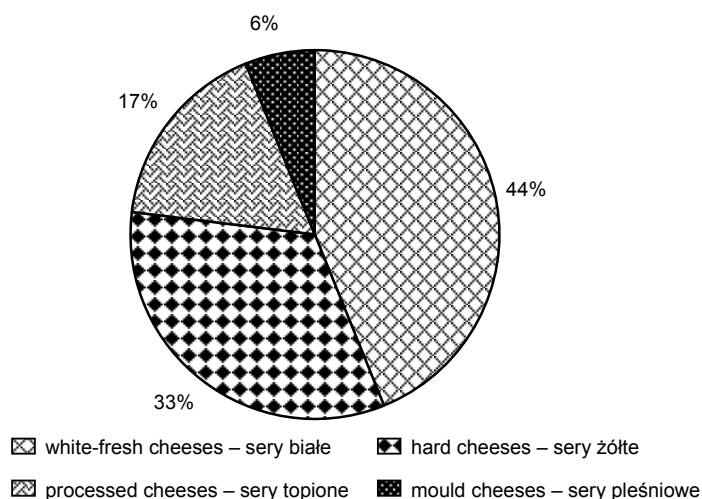


Fig. 7. Value structure of cheese market (Dec. 2003-Nov. 2004)  
(based on ACNielsen data)

Ryc. 7. Struktura wartościowa rynku sera (grudzień 2003-listopad 2004) (na podstawie danych z ACNielsen)

The general situation on the market improves. Annual growth (Feb. 2004-Jan. 2005 to Feb. 2003 – Jan. 2004) amounted to 5.7% in volume and 10.3% in value and was mainly subjected to white-fresh cheeses and mould cheeses. But what is a characteristics of consumers? How do they differ from one another?

**Type of household.** Analysis of consumption in different types of household based on occupation can be somehow misleading as the poorest group – pensioners eat most cheese, but it results from the fact that they chose the most affordable fresh cheese – quark, which is very heavy and in terms of quantity represents the largest share (Fig. 8).

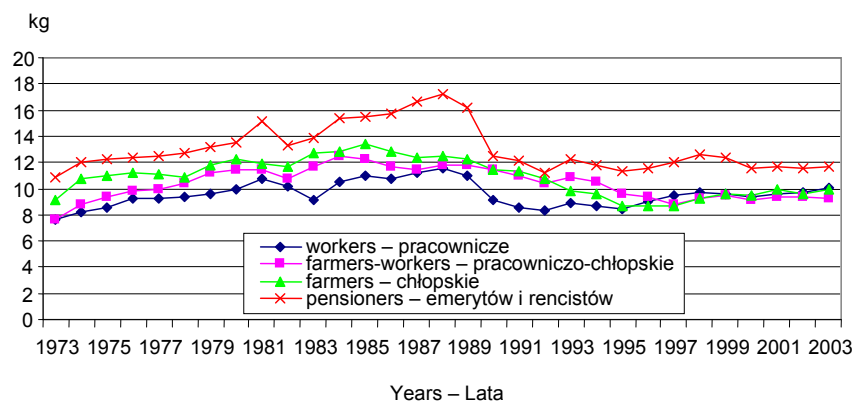


Fig. 8. Per capita cheese consumption in different types of households  
(based on **Rocznik...** 1973-2003)

Ryc. 8. Spożycie sera per capita w różnych typach gospodarstw domowych  
(na podstawie **Rocznika...** 1973-2003)

Pensioners got used to eat this type of cheese during their childhood, so the choice is affected by habit and they appreciate much more than others the nutrition value of this cheese which is easily digestible. Three other types of households represent similar level of consumption. Especially nowadays farmers' and workers-farmers' households indicate similar consumption. In the past farmers-workers consumed more of farm produced cheese, but they have quitted dairy farming switching to less time consuming branches of agricultural production and restricted consumption.

**Frequency.** Consumption frequency gives us the information about the number of consumers who eat foods very often, occasionally or never. As we see 36% of the population belongs to heavy consumers of hard cheese (they eat cheese at least on majority weekdays). Next popular type-fresh cheese is consumed very often by 25% of the population and only 15% and 9% frequently consume melted and mould cheese, respectively. The medium consumers who eat cheese once, twice a week represent 35% the population when hard cheese is concerned and 33% of Poles chose fresh cheese with this frequency. Consumers reach for melted and mould cheese rarely as these groups have high number of light consumers and persons who do not eat these types of cheese at all. This is interesting that 50% of population do not eat mould cheese, one fourth do not eat melted cheese (Fig. 9). There is no research, which would answer what the reasons of avoidance are. There are only data from survey conducted in 2002 that indicate different motivations for quark and hard cheese (Fig. 10). The first is avoided because of taste (3.7% of population), the second one is avoided mainly because of health concerns (5% of population). Meal occasion the most often chosen for cheese is breakfast. Nearly 70% of Poles eat quark and hard cheese in the morning. 55% also admit that they eat hard cheese in the evening, the same is with quark but it is chosen only by 37.5% for supper. Mould cheeses are preferred for breakfast and supper by 18.6 and 17.6% representatively (Fig. 11).

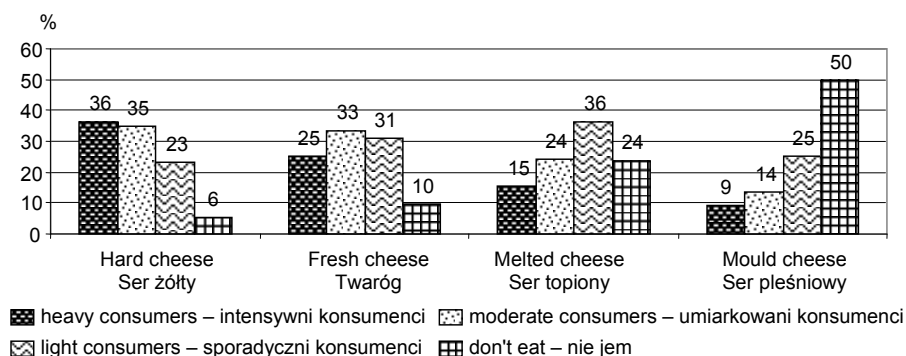


Fig. 9. Frequency of cheese consumption – light, moderate, heavy consumers  
Ryc. 9. Częstotliwość konsumpcji sera – konsumenci sporadyczni, umiarkowani i intensywni

**Self-provisioning.** Extend of self-provisioning is still high in Polish households as 11% of them process milk for quark and nearly 4% produce fried cheese. This is the influence of a high number of rural population and in some cases economic needs (Fig. 12).



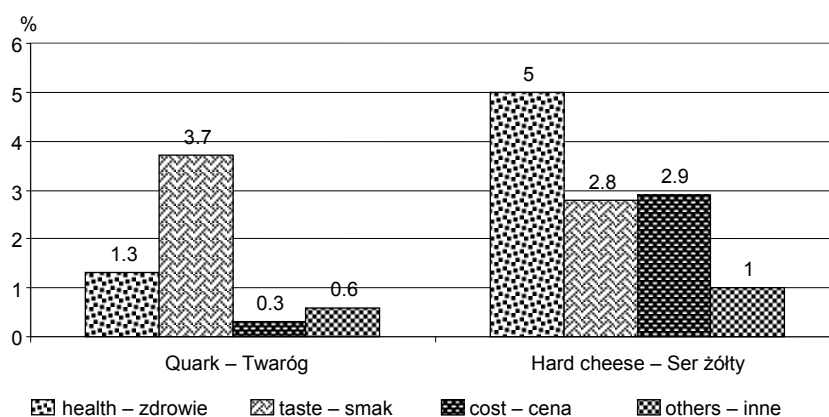


Fig. 10. Reasons of avoidance of quark and hard cheese  
Ryc. 10. Przyczyny unikania twarogu i sera żółtego

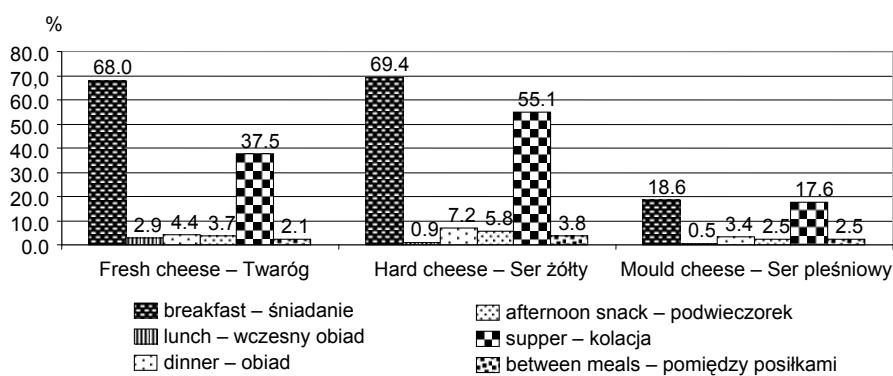


Fig. 11. Meal occasion for cheese consumption  
Ryc. 11. Posiłki, podczas których spożywa się sery

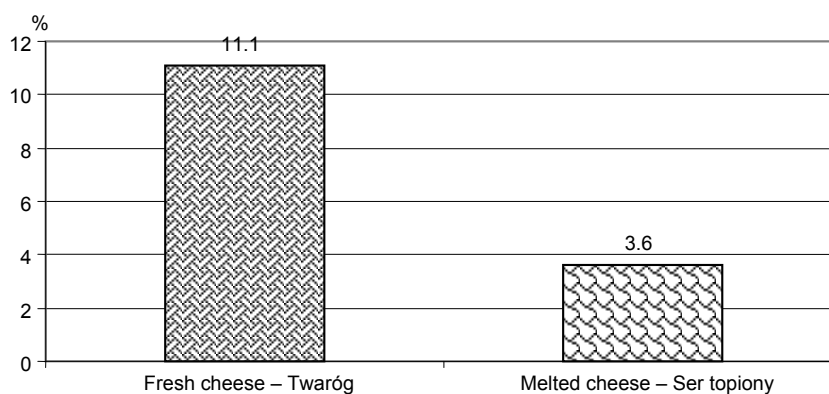


Fig. 12. Self-provisioning in cheeses  
Ryc. 12. Samozaopatrzenie się w sery

## Conclusions

1. World cheese consumption is very diverse. Western Europe (former EU-15) consumes most of cheese.
2. Close eastern markets – Ukraine and Russia seem to be very promising.
3. Similarity of taste, consumption habits to Western neighbours and growing disposable income in Poland make our country a very attractive market.
4. Slow dynamics of cheese consumption growth during recent years has been caused by economic crisis.
5. Fresh cheese dominates in consumption both in quantity and value – high share of fresh cheese is specific for Poland and Eastern Europe. Fresh cheese is consumed by old people mainly.
6. Hard cheese has the biggest group of heavy consumers (36%).
7. 50% of population do not eat mould cheese, it is too exclusive. Melted cheese is also not so popular as 25% of Poles refrain from eating it.
8. Simple production of fresh cheese encourages 11% of households to home manufacturing.

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## KONSUMPCJA SERÓW PER CAPITA W POLSCE I NA ŚWIECIE

### S t r e s z c z e n i e

Poziom konsumpcji serów na świecie jest bardzo zróżnicowany. Obszarami o największym spożyciu sera są kraje Europy Zachodniej i Skandynawii, gdzie średnie spożycie wynosi od 17 do 25 kg na osobę rocznie. W Polsce spożycie per capita jest znacznie mniejsze od średniej w Unii Europejskiej i oscyluje w granicach 10 kg na osobę rocznie. W strukturze spożycia dominują sery świeże, zarówno pod względem ilościowym, jak i wartościowym. Oprócz tego 11% gospodarstw domowych wytwarza sery świeże samodzielnie. Z kolei jeśli chodzi o intensywność konsumpcji mierzoną częstotliwością spożycia – na pierwszym miejscu plasują się sery żółte. One, jak i sery białe, są konsumowane zazwyczaj na śniadanie – tak twierdzi prawie 70% respondentów.