

Food Consumption Trends and its Influencing Factors in Latvia

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Abstract

Over the last decade the structure of consumption expenditures, including food, in Latvia like other developed countries and countries in transition has changed significantly, affecting accordingly also food consumption patterns and diet habits. The paper presents the results of studies on factors influencing food consumption and diet of Latvia's inhabitants and food consumption trends. The study provides the evaluation and comparison for the consumption of various food products and their nutritive value for food intake or diet by Latvian urban and rural inhabitants, as well as by the inhabitants of different regions of Latvia. The study results show that the consumption of basic food groups – bread and cereal products, meat and meat products, milk and milk products – and fats has changed over the last 15 years. The consumption of meat and milk products is constantly increasing, whereas the role of this group of products in urban residents' diet is larger than for rural ones. Bread and cereal products as well as fats still play a quite important role in energy balance for the lowest income group of inhabitants, including rural ones. Quantities and qualitative aspects of consumed food in different regions of Latvia as well as in urban and rural areas are evaluated. The relationship between the choice of several food groups and population income and its changes is evaluated, and the results show that the main factor influencing nutrition or diet of the population of Latvia depends on the income per capita.

Key words: food consumption, income, region, urban, rural

Introduction

Within the last decade the structure of households' consumption expenditure has changed significantly. In all European countries, the share spent on food and beverages has declined. AN Austrian study (Pack et al., 2005) has pointed out that high income countries spend only 16% of their expenditures on food, while low income countries spend 55%. According to the data from the Central Statistical Bureau (CSB) of Latvia, a Latvian household spends 28% of its expenditure on food and non-alcoholic beverages. In comparison with 2005 the expenditure on food has decreased by 3%.

Pack et al. (2006) indicate that changes in the structure of households' consumption expenditures have influenced food consumption patterns worldwide both in industrialised countries like the European Union (EU) and other developing countries. General trends show that:

- meat consumption raises annually, especially pork and poultry;
- households begin use more vegetable oils and to avoid animal fats;
- strong decline in the consumption of potatoes and dairy products (except cheese and fermented products) is observed;
- additional increase can be seen in higher consumption of fast food, pizzas and pastas, as well as juice, mineral water and carbonated soft drinks;
- shift in diets towards more livestock products and vegetables can be recognized.

Michaelis L. and Lorek S. (2004) highlight that a wide range of demographic, social, technological and economic trends and factors is shaping household consumption in Europe, for instance:

- families and households are shrinking;
- population is aging;
- time spent on activities such as cooking is falling, in favour of leisure and entertainment.

In investigation of food consumption patterns two broad approaches can be used: one dealing with household food consumption based on budget surveys, and the other one analysing the effects of socio-economic differences on food consumption. For assessing food consumption patterns in Latvia only one of these approaches can be used – household food expenditure, since there is a lack of adequate surveys providing quantitative and qualitative data for analysing socio-economic factors.

The **aim** of this study is to estimate food consumption trends and influencing factors in Latvia.

The **object** of the research is food consumption and its trends, inter alia consumption of different groups of products, and diet of inhabitants of rural and urban areas as well as different regions.

The study includes some **tasks**: factors influencing food consumption; structure of inhabitants' expenditures and share of food in total expenditures; food consumption trends; dependence of food consumption and diet on the location of household (urban and rural, regions of Latvia).

The key **materials** used for studies are as follows: different sources of literature, research papers and reports of international organizations, published and unpublished data from the Central Statistical Bureau of Latvia (CSB) as well as the database (2003 – 2005) of Household Budget Survey done by the CSB.

Both qualitative and quantitative research **methods** were used in this study: analysis, data grouping, and reference, logical and abstract constructive and expert methods.

The analysis methods include: ratio analysis, historical trend analysis, and linear regression analysis by means of the software tools.

The norms of chemical content of products by Souci, S.W. et al. (1994) have been used for calculations of nutrition value of food products. Due to the limited scope only the most important results of the research are set out in the paper.

3. Results and discussion

3.1. Food consumption and its influencing factors

Human motivation to consume is often described in the language of needs, wants and desires. While some need is founded entirely in individual physiology, many of our needs result from the interaction with our social context. Michaelis L. and Lorek S. (2004) indicated that consumption was one of the realms in which it was most obvious that behaviour was established at least in part by the social context. The social influence takes place at many different levels, within households and organisations, in local communities and cities, in nations and internationally. Besides media is a major part of the social influence on consumption (Michaelis, Lorek, 2004). Also in Latvia television and advertisement plays an increasingly strong role in food consumption, for instance, chips and soft drinks play an important role in daily consumption for schoolchildren.

Gehlhar M. and Coyle W. (2001) claimed that shifts in consumption could have major impacts on food markets, including exports and imports. Therefore it is substantially to clarify the major determinants of changes in the structure of food consumption patterns.

Numerous publications and case studies about various factors influencing food consumption and dietary habits can be found in different sources of literature. Some authors outline that food consumption depends on the economic and social structure of a country, its environment, climate, resources and trade policies, as well as the composition, culture and lifestyle of its population (Akabay et al., 2007). While other authors point out that the demographic factors, such as shifts in the population growth, age structure, urbanization and changes in household size can bring changes in food consumption structure (Putnam, Allshouse, 1999).

Schmidhuber J. (2003) identifies several other factors determining the form and the pace of these nutritional transitions: food industry and state intervention (promotion of animal husbandry); socio-economic transformations bringing changes in women's roles (different time allocation promoting processed foods); changes in public understanding on the role of diet for health (a factor with potential for very positive developments, but also one producing dubious results in population searching for alternative healing through nutrition); and effects of growing international trade and globalisation of tastes.

In the study performed by Gehlhar M. and Coyle W. (2001) different economic factors were identified and the shifts in consumption patterns explained, where economic factors contain the growth of income and food expenditures, factors of production, transport costs, and trade policy changes. Of these determinants, the growth of income and its impact on food consumption was determined as most important to explain the changes in food consumption patterns. At the same time these authors indicate that consumption patterns are a function of many factors, and not always directly related to income changes. They can relate to the changes in lifestyle, and can lead towards greater food purchases away from home, thus reducing preparation costs. As this occurs some food commodities may experience not only a decrease in the share of food expenditure, but also an absolute decline in per capita consumption.

Overall factors influencing food consumption can be divided into macro-level and micro-level driving factors (Figure 1).

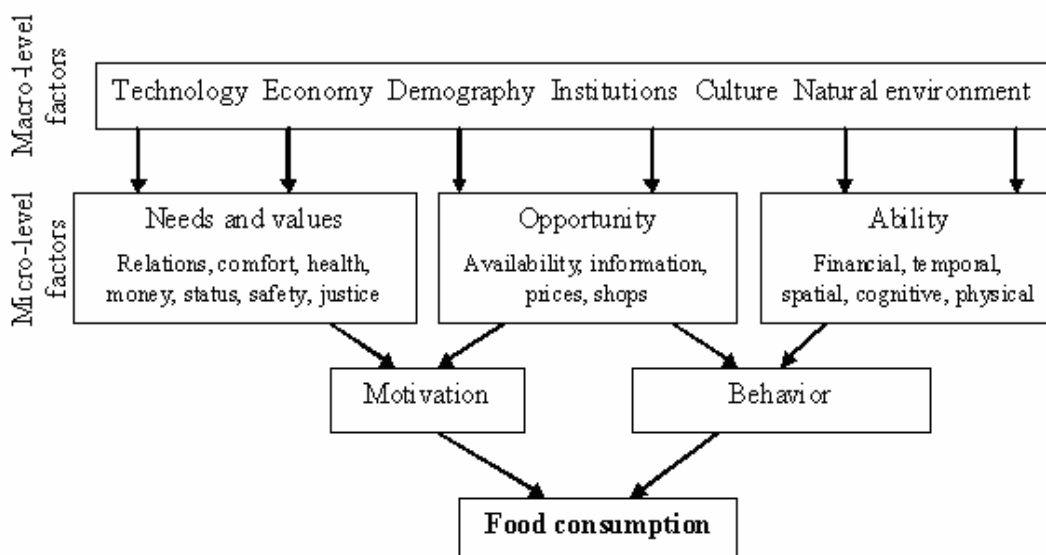


Figure 1. The factors affecting food consumption on macro-level and micro-levels

Source: made by the authors based on Pack et.al., 2005

According to Pack et.al. (2005) macro-level factors are equal for all individuals, and refer to the natural and human environment people live in, and they include the following developments:

- technical - the growing supply of goods and services;
- economic - increasing disposable income for households;
- demographic - the growing population and its growing demand for more goods and services;
- institutional - the free market system;
- cultural - the belief of people that they feel better by consuming more.

The macro-level factors affect the individual's consumption habits by influencing the micro-level driving factors. Those differ between human beings and include human needs and values, behavioural opportunities, consumer abilities and consumer uncertainty. Needs and opportunities determine the motivation for consuming, whereas opportunities and abilities are responsible for the behavioural control, i.e., the feasibility of consumption. Needs are internal forces that are responsible for our behaviour, like physiological needs (hunger, thirst), safety needs, needs for subsistence, communication, leisure, freedom, etc. If a non-satisfied need was confronted with an opportunity, which is able to satisfy the need, this would result in a motivation to use that opportunity. Figure 1 summarises the main factors that influence consumer decisions and food consumption.

Summarising the information and data on the factors influencing food consumption we come to conclusion that in earlier period of development of the state int.al in transition like Latvia at present, it is indicated that per capita income level is the most important factor affecting food consumption patterns, but with the growth of income level and further development of the state it has been proved that other factors would be important for affecting food consumption patterns.

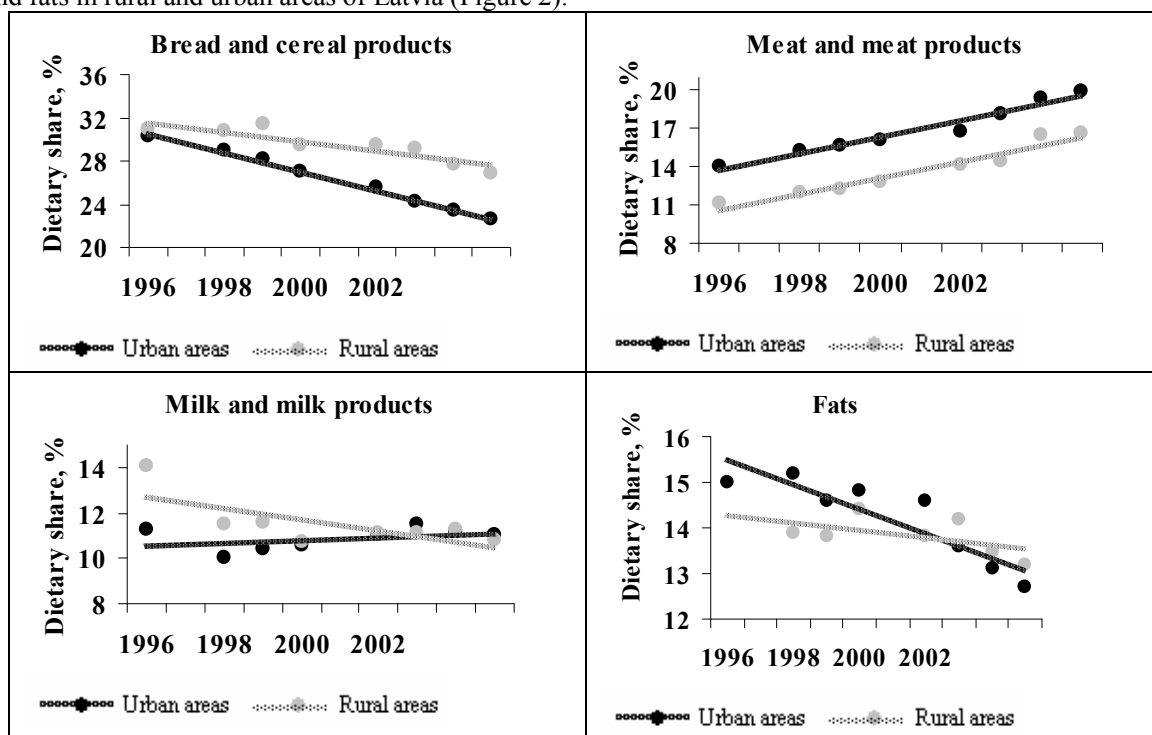
3.2. Food consumption in urban and rural areas

At present in compliance with the data from the CSB of Latvia 68 per cent of the total population of Latvia live in cities and towns, while 32% - in rural areas. Therefore, we can agree to the International Food Policy research institute (IFPRI),²⁵ which indicates that no developing country can afford to ignore the phenomenon of urbanization. In this relation B. Cohen (2006) taught that the major force altering the food

²⁵ Annual report 2006 – 2007. <http://www.ifpri.org/pubs/books/ar2006/ar06.pdf>

equation was shifting rural-urban population and the resulting impact on expenditure and consumer preferences.

For evaluating the impact of urbanisation on food consumption pattern we compared the consumption of three basic food groups – bread and cereal products, meat and meat products, milk and milk products – and fats in rural and urban areas of Latvia (Figure 2).



Source: author's calculations based on the data of the Central Statistical Bureau

Figure 2. The dietary share of basic food groups (in calorie equivalents) of Latvian urban and rural population between 1996 and 2005, %

According to the research results the role of bread and cereal products in energy balance from 1996 to 2005 has decreased annually both in the dietary of urban and rural population. For rural inhabitants this decline was not so rapid – from 30.9 per cent in 1996 to 26.9 per cent in 2005, but still bread and cereal products are an important component in the dietary of rural inhabitants. Differences in bread and cereal product consumption among rural and urban population can be explained with different level of income. According to the results of other researches bread consumption is conversely to the income level²⁶ of population (The Federation of Bakers, 2005).

Conversely to bread and cereal products the consumption of meat and meat products can be characterised as steadily increasing. For example, if in 2003 the total annual meat and meat products consumption was 73.8 kg per inhabitant, then in 2005 it amounted to 81.5 kg. Rising level of consumer income and meat prices, when adjusted to the inflation, explain much of the increase in meat consumption. The comparison of meat consumption between urban and rural population shows that urban population consumes more meat and meat products than rural inhabitants.

Similar results are found in the studies of other researchers (Akbat et.al., 2007; Aragrande M. et al. 2005) where the highest expenditure elasticity was found for meat and meat products group, suggesting that its demand will grow faster than the demand for other products as the economy develops and income increases. According to the statistical data (CSB) total consumption of milk and milk products in recent years has decreased - in 2003 it was 335 litres per inhabitant, but in 2005 it was only 324.3 litres. Assessing these changes over 15 years between two different groups of inhabitants we can observe two tendencies: the share of milk and milk products in urban population dietary increases annually, while in rural population dietary it

²⁶ <http://www.bakersfederation.org.uk/resources/FS3%20-%20UK%20Bakery%20Market.pdf>

decreases. These differences can be explained by the fact that consumption of several milk products, like yoghurt, fermented milk products and cheese, which play an important role in urban population dietary, increases steadily and rapidly.

Positive tendency can be observed when assessing the consumption of fats over the period of 15 years – it has decreased annually and among urban inhabitants this process has occurred faster. This analysis shows that the inhabitants of Latvia are starting to think healthier by choosing foods and drinks naturally low in fat, as well as the fast-growing array of processed reduced-fat and non-fat foods and drinks.

Overall assessment on the consumption of different food groups in rural and urban areas may lead to the conclusion that there are differences in food dietary among rural and urban population, but these differences are not considerable. Constantly the role of meat and meat products, and milk and milk products increases in the dietary of urban population, while bread and cereal products and fats still have a quite important role in energy balance in the dietary of rural population.

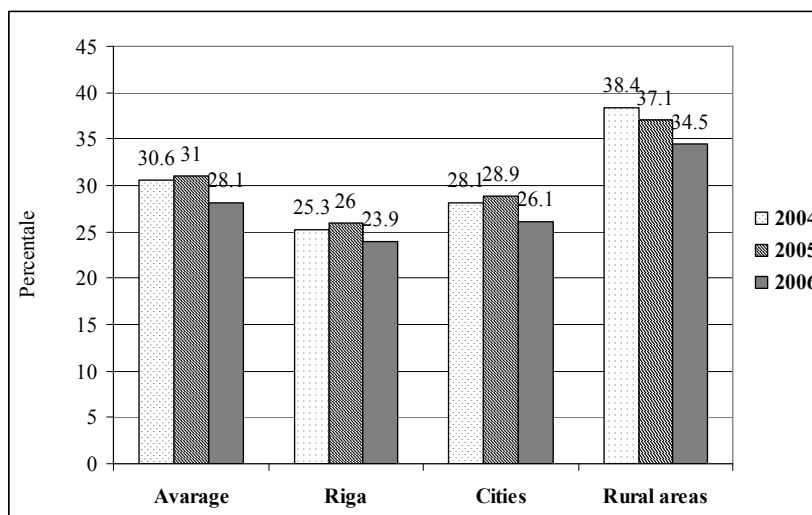
Table 1

Income of urban and rural population by cash and type between 2003 and 2005, LVL per household member per month,

Year	Urban, LVL per month			Rural, LVL per month			Urban / Rural, %	
	total	in cash	in kind	total	in cash	in kind	total	in cash
2003	98.46	94.79	3.69	62.61	52.66	9.95	157%	180%
2004	112.34	107.55	4.79	77.84	67.55	10.29	144%	159%
2005	121.66	116.50	5.16	86.36	76.22	10.14	141%	153%

Source: author's calculations based on the data of the Central Statistical Bureau

Comparing the income level of urban and rural population in Latvia (Figure 3) we concluded that it differed considerably. For example, in 2005 the income level of urban population was 1.4 times higher than the income level of rural population (Table 1). Therefore we can agree to researchers which affirm that higher income and dependable food supplies, lead to the diversity in diets, both in the type of foodstuffs consumed and their source²⁷.



Source: figure made by the authors based on the data of the Central Statistical Bureau

Figure 3. The share of expenditures for food in different areas of Latvia in the period 2004-2005

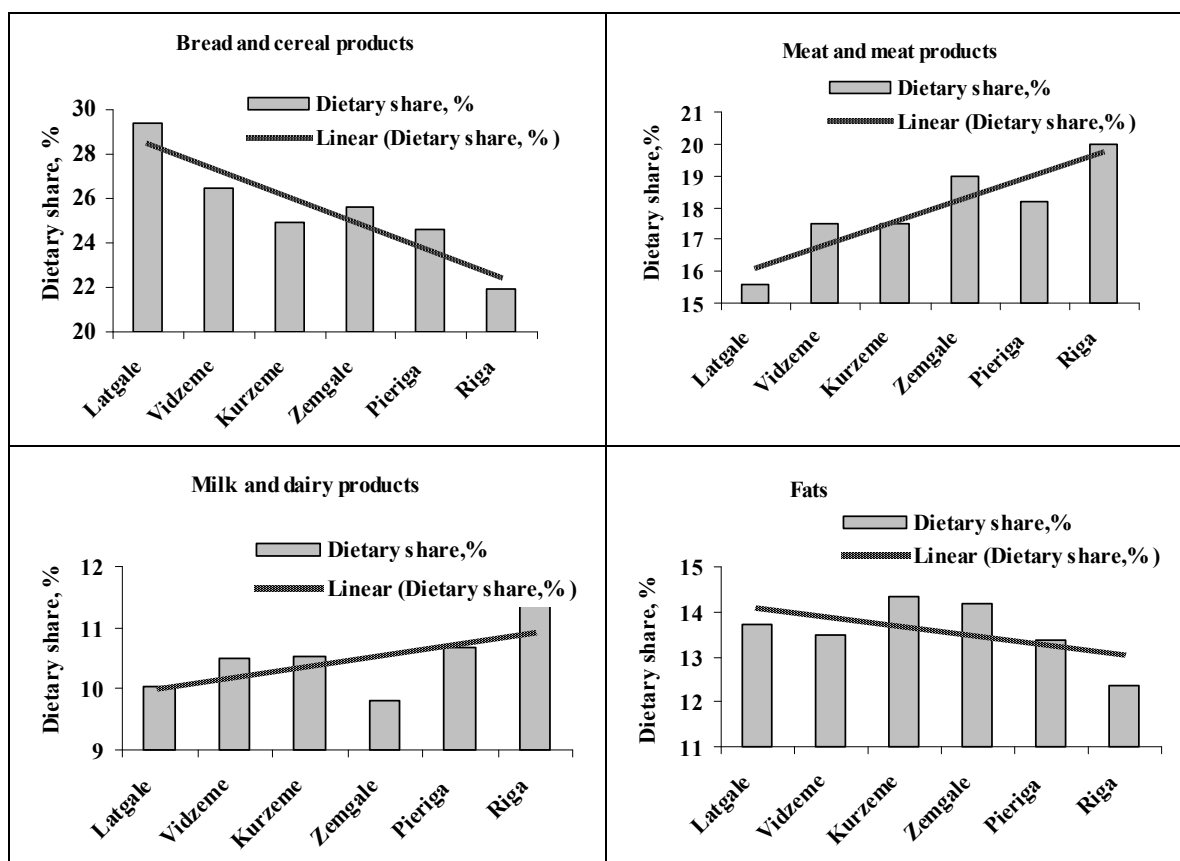
²⁷ Global and regional food consumption patterns and trends. – http://www.who.int/nutrition/topics/3_foodconsumption/en/print.html

With increasing number of urban population in Latvia we forecast that more convenience and processed foods will appear in the dietary of population, as urban occupations raise the opportunity costs of time needed to prepare meals.

3.3. Food consumption in different regions of Latvia

For evaluating regional trends we compared food consumption in different regions of Latvia. As well as in urban and rural areas we estimated the consumption of three basic food groups— bread and cereal products, meat and meat products, milk and milk products – and fats (Figure 4).

Describing the consumption structure we can see that the inhabitants of Latgale with bread and cereal products take on average 29% calories (in comparison with the inhabitants of Riga, which take only 22% calories with bread and cereal products). The inhabitants of Latgale in their dietary use considerably more cereal products than the inhabitants of Riga: 2.6 times more rye bread, 2 times more grouts, and 2.3 times more wheat meal and for 80% more macaroni products. All these products are rich in carbohydrates, and ensure high food caloric value. As more than one third of Latvian population lives in Riga and Pierīga, and the income level in these regions is considerably higher than in other regions (Table 2), the inhabitants of Riga and Pierīga regions consume more meat and meat products, and milk and milk products. But in the regions where the income level of population is low – Latgale, Vidzeme, Kurzeme – bread and cereal products and fats are the main products consumed.



Source: author's calculations based on the data of the Central Statistical Bureau

Figure 4. The dietary share of basic food groups (% in calorie equivalent) consumed by the population in the regions of Latvia, 2005

The observed differences in food dietary can be explained by the fact that the development of Latvian regions occurs very unequally. Leading Latvian researchers in their studies have proved that Latvian regions differ between each other considerably (Arhipova et.al., 2005), and can be divided into four groups:

- high development region – Riga, Pierīga;
- medium development region – Kurzeme;
- medium-low development region – Vidzeme, Zemgale;
- low development region – Latgale.

Table 2

**Disposable income by the regions of Latvia between 2003 and 2005,
LVL per household member per month,**

Year	Regions						Riga/Latgale, %
	Riga	Pierīga	Vidzeme	Kurzeme	Zemgale	Latgale	
2003	125.23	84.48	67.97	68.10	73.69	56.83	220%
2004	135.24	102.77	83.34	89.88	89.66	67.20	201%
2005	146.12	108.87	88.38	92.56	100.14	79.58	184%

Source: author's calculations based on the data of the Central Statistical Bureau

Overall we concluded that the percentages of cereal and meat products nutritional value balance depended on the total regional development, indirectly characterized by the income per capita. The more developed region and the higher inhabitant's income, the higher nutritive value of qualitative meat and meat products and lower bread and cereal products percentage in nutritional value balance.

The influence of different factors on food consumption varies and depends on economic development and social conditions in the region. When analysing the dynamics of food consumption in the regions of Latvia, the physiological and psychological factor groups theoretically can be considered to be constant, as the change period is very long. The economic factors - income level and prices - change much faster.

Conclusions and proposals

The study results show that the consumption of basic food groups – bread and cereal products, meat and meat products, milk and milk products – and fats over the last 15 years has changed, and constantly the consumption of meat and milk products increases, where the role of this product group in urban residents' diet is larger than for rural residents' diet.

Bread and cereal products, and fats still play quite an important role in energy balance for the lowest income group of inhabitants, including rural ones.

Assessing the consumption of different food groups among rural and urban residents, as well as residents of different regions of Latvia we concluded that there were differences in food dietary patterns. At the present stage of state development income and region development are the factors leading to the diversity in diets.

Compared with the less diversified dietary of the rural inhabitants, city dwellers have a varied diet rich in animal proteins and plant origin fats, characterised by higher consumption of meat, poultry, yogurt and other dairy products, while rural residents consume more whole milk and animal fat.

In regions with low income per capita (Latgale, Vidzeme, Kurzeme) the consumption of bread and cereal products is bigger than in the regions with higher income (Riga, Pierīga, Zemgale), therefore it could be affirmed that the consumption of bread and cereal products is conversely to the income of population.

Summarising the information and data about the factors influencing food consumption we came to the conclusion that in the earlier period of development of the state in transition like Latvia at present, it was indicated that per capita income level is the most important factor affecting food consumption patterns, but with the growth of income level and further state development it has been proved that other factors would be important for affecting food consumption patterns.

Therefore, future research challenges will be to examine other factors besides the level of income, urbanisation and regional differences such as socio-economic groups, age, education level and demographic of householder; as well as the changes in lifestyle, health and environmental concerns etc.

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