

## BEEF CONSUMPTION TRENDS IN LATVIA

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### Abstract

Over the last few years, the increase of society stratification and inequality of income that has favoured significant shifts in household dietary patterns and a growing demand for products of animal origin, particularly meat and milk can be observed. On the consumption side, meat plays an important role in improving the nutritional status of low-income households by addressing micro and macro nutrient deficiencies. In this context, this paper investigates beef consumption trends and aims to corroborate theoretical expectations with empirical findings. The aim of the research was to characterize main tendencies of beef consumption and to find out factors affecting beef consumption in Latvia. In order to achieve the set aim, the following research objectives were defined: 1) to characterize household expenditure for purchasing beef; 2) to describe overall beef consumption in Latvia; 3) to investigate beef consumption in households with different income level. The study was based on annual statistical data, statistical bulletins covering results of the Household Budget Survey from 2002 to 2007, scientific publications and special literature. To carry out the research, adequate research methods were used. The results of this study showed that beef consumption in the country has been more or less stable, although in relatively small amounts. The main factor that influences beef consumption and expenditure on beef is income level. The results also suggested that higher beef consumption is characteristic of urban households, which have higher income level than rural ones. Therefore, within increase of income level of Latvia's inhabitants, beef consumption and demand for beef could significantly increase.

**Key words:** beef, consumption, expenditure, quintile, Latvia.

### Introduction

Consumption of fresh meat heavily declined during the 1990ies in most European countries. Explanations for this decline are increasingly sought and found in factors other than traditional economic ones. According to W.A.J. Verbeke and J. Viaene (1999) livestock production today faces a difficult task of meeting emerging consumer concerns effectively while remaining competitive on major target markets. Therefore quality aspects, ways of shopping, cooking methods, and purchase motives are key factors affecting meat consumption trends (Grunert, 2006).

Unlike other kinds of meat, beef consumption declined most sharply in the nineties. A recent, comprehensive study on consumption trends for dairy and livestock products in the new European Union member states showed that greatest beef consumption fall of - 68% was observed in Latvia (IAMO, 2004).

According to classical economic theory consumers are independent market observers who act to satisfy their needs. And this is possible only if products that are offered in the market comply with consumer requirements or desires. Satisfaction of consumer multiform interests is principal essence and mission of agriculture and all national economy. Nonetheless, the structure, interests and potentialities of consumers persistently change.

E. Špakoviča (2004) points out that at current market economy conditions analytical assessments discover more and more new problems, topicalities, dominants and aspects in consumer behaviour, which demand for further scientific research. However, information on aspects of beef consumption and its influencing factors in Latvia have not been published yet.

Such evaluation of current situation encouraged us to carry out this research, and let us highlight the following aim of the research – to characterize main tendencies of beef consumption and find out factors affecting beef consumption in Latvia. In order to achieve the set aim, the following research objectives were defined:

- To characterize household's expenditure for purchasing beef;
- To describe overall beef consumption in Latvia;
- To investigate beef consumption in households with different income level.

The research object was beef consumption.

### Materials and Methods

To analyse beef consumption trends, household expenditure for purchasing beef and beef consumption in households with different income level were emphasized. For data summarizing, showings (i.e. expenditure for purchasing beef (LVL month<sup>-1</sup>) and beef consumption

(kg year<sup>-1</sup>) of the following entities were used:

- Household: a person or a group of persons who are kinsfolk, who have common expenditure for food and who live in one residential unit (house, flat etc.) and cover residence expenses collectively (Central Statistical Bureau of Latvia, 2004);
- Quintile: one fifth or 20% of surveyed households grouped in ascending order according to their gross income (Central Statistical Bureau of Latvia, 2005).

The principal materials used for this research were as follows: different sources of scientific literature and research papers, published data from Central Statistical Bureau of Latvia (Central Statistical Bureau of Latvia, 2003; 2004; 2005; 2006; 2007; 2008) as well as database of Household Budget Survey done by CSB.

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

**Results and Discussion**

*1. Household Expenditure for Purchasing Beef*

Households are the least economic unit of society and to a great extent they represent both the development of national economy and social situation and problems of inhabitants. Therefore, it is important to clarify food consumption expenditure and structure. In our study structure of household food expenditure can be assessed as an indicator that quite precisely characterises consumption priorities.

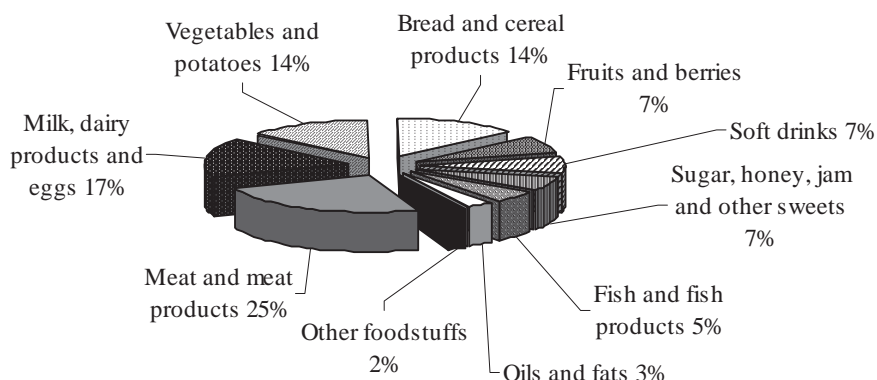


Figure 1. Structure of household food expenditure (% from total food expenditure), 2007.

Source: Central Statistical Bureau of Latvia, 2008

Data presented in Figure 1 indicates that in all households the main consumption priorities are expenditure on meat and meat products (25%), milk, dairy products and eggs (17%). The third priority is vegetables and potatoes, bread and cereal products

(14%). Considerably less money is spent on purchasing such products as fruits and berries, soft drinks, sugar, fish, oils and fats. In general, such structure of household food expenditure is characteristic of Latvia's households, because lately it has not practically changed.

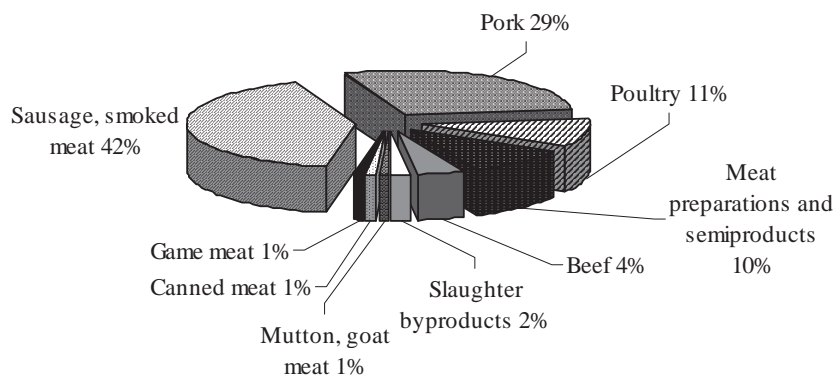


Figure 2. Structure of household expenditure on purchasing meat and meat products (% from total meat and meat products expenditure), 2007.

Source: Central Statistical Bureau of Latvia, 2008

Analyzing the structure of household expenditure on purchasing meat and meat products, we can see that in 2007 most of money households spent on purchasing sausages and smoked meat (42% from total meat and meat products expenditure) and pork (29%). Considerably less money was spent on beef purchase – only 4% from total meat and meat products expenditure (Figure 2).

In order to characterize household expenditure on purchasing beef, dynamics of household expenditure on purchasing beef was further examined (Figure 3). From data and calculations arranged in Figure 3 the following conclusions could be made:

- From 2002 to 2003, the tendency to increase expenditure for beef was observed. In 2003 for purchasing beef household spent 6.9% from total meat and meat products expenditure or 0.56 LVL month<sup>-1</sup>;
- Diametrically opposed processes were observed from 2004 to 2006, when specific weight of expenditure decreased consequently;
- Small growth of expenditure occurred in 2007, when expenditure for beef was 0.56 LVL month<sup>-1</sup> or 4% from total meat and meat products expenditure.

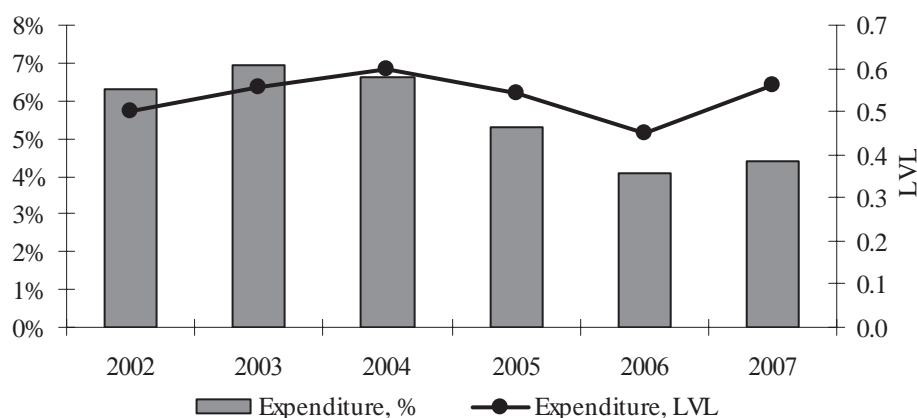


Figure 3. Dynamics of household's expenditure on purchasing beef (% and LVL month<sup>-1</sup> from total meat and meat products expenditure), 2002 – 2007.

Source: The author's calculations based on the data from Central Statistical Bureau of Latvia, 2003; 2004; 2005; 2006; 2007; 2008

Analyzing our findings we can agree to those authors who points out that general trends in the food industry indicate that the sector is in transition with shifts in consumer expenditure from basic products (fresh meat) to more prepared products (meat products) (Newman et al., 2002).

Although some authors indicate that changing pattern of food consumption is more influenced by socio-demographic factors, instead of price and income factors (Newman et al., 2002; Burton et al., 1999), we think that in Latvia's situation the main factor that influences food expenditure structure and food consumption is income level. This is indicated by the increase of society stratification, which can be characterized by the growth of Gini coefficient from 0.30 in 1996 to 0.35 in 2007 (Central Statistical Bureau of Latvia, 2008). The Gini coefficient is used as a measure of inequality of income distribution or inequality of wealth distribution. It is defined as a ratio with values between 0 and 1: a low Gini coefficient indicates more equal income or wealth distribution,

while a high Gini coefficient indicates more unequal distribution (Kalniņa and Meņšikovs, 2002).

To characterise the level of household expenditure in households of different prosperity level, data about quintile groups and households in rural and urban areas were used.

In statistics quintile groups are developed by arranging all households in ascending order by their disposable income per one household member and dividing them later in five equal parts. Each of them represents one fifth or 20% of households. Thus, in the 1<sup>st</sup> quintile the poorest households are included, but in the 5<sup>th</sup> quintile – the richest ones.

Expenditure on beef of the poorest households (1<sup>st</sup> quintile) in 2007 constituted 0.30 LVL month<sup>-1</sup> on average per one household member. Expenditure on beef of 1<sup>st</sup> quintile households comprising one fourth of the total number of persons belonging to households in the country constituted only 54% of the average level of household expenditure on beef.

Beef consumption expenditure of the richest households (5<sup>th</sup> quintile) comprised 0.83 LVL month<sup>-1</sup> per household member and was 1.5 times higher as

the average indicators and almost 3 times higher as the indicators of the lowest quintile. The same tendency can be observed in longer time period (Figure 4).

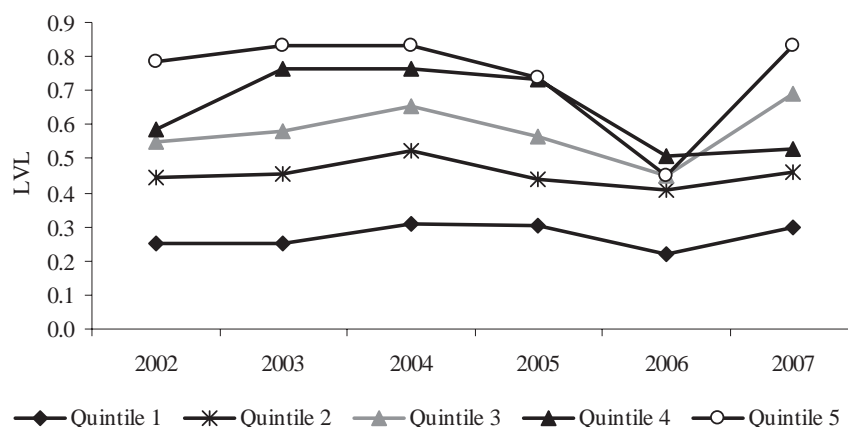


Figure 4. Dynamics of expenditure for purchasing beef in households with different income level (LVL month<sup>-1</sup>), 2002 – 2007.

Source: The author’s calculations based on the data from Central Statistical Bureau of Latvia, 2003; 2004; 2005; 2006; 2007; 2008

From Figure 4 we can conclude that during the last six years the least financial resources for purchasing beef spent the poorest households (1<sup>st</sup> and 2<sup>nd</sup> quintile). Although common tendency shows that the richest households (5<sup>th</sup> quintile) spent most of money on purchasing beef; however, in definite years some exceptions can be observed. For instance, in 2005 and 2006 expenditure on purchasing beef between 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> quintile didn’t differ significantly. Such situation, when poorest households spent considerably less expenditure on beef than richest households, can be explained by the fact that beef retail price is comparatively high, but

disposable income of 1<sup>st</sup> quintile households is small. This also determines limited potentialities for purchasing beef of mentioned households.

At present in compliance with data from the CSB 68% from total Latvia’s population lives in cities, but 32% – in rural areas (Central Statistical Bureau of Latvia, 2008). Income inequality between these households can be observed. For example, in 2006 disposable income of urban households was about 30.9% or 52.94 LVL month<sup>-1</sup> higher than in rural households. Therefore, it is logical that urban households spent considerably more money on purchasing beef than rural households (Figure 5).

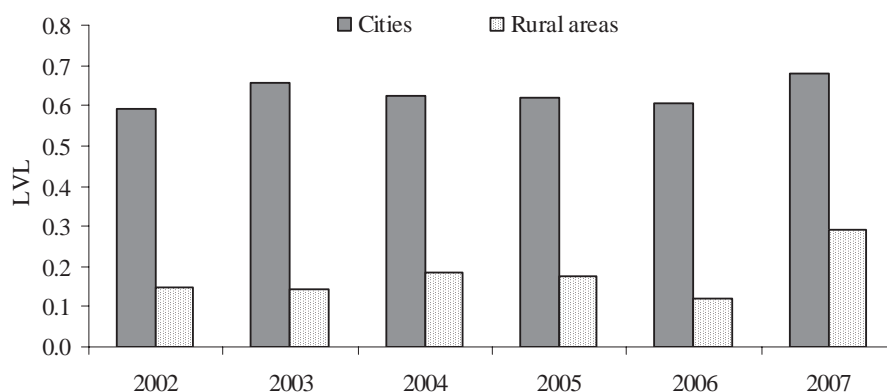


Figure 5. Dynamics of expenditure for purchasing beef in rural and urban households (LVL month<sup>-1</sup>), 2002 – 2007.

Source: The author’s calculations based on the data from Central Statistical Bureau of Latvia, 2003; 2004; 2005; 2006; 2007; 2008

Dynamics of expenditure for purchasing beef in rural and urban households shows that in time period from 2002 to 2006 urban households spent on average for 75% more money than rural households. Only in 2007 this predominance decreased, as urban households spent about 57% more money for purchasing beef than rural households.

Substantial differences between expenditure of urban and rural households could be explained with lower beef retail prices or with supply of cheaper and less qualitative production in rural area. Probably small expenditure for purchasing beef depends on both these factors.

In general, analysis of household expenditure on beef showed that in 2005 and 2006 expenditure for purchasing beef decreased; furthermore, the amount of expenditure substantially differs between households with different income level. For verification of drawn conclusions total beef consumption and beef consumption in rural and urban households were further analyzed.

## 2. Beef Consumption

In 2007, the total consumption of beef in Latvia has slightly increased in comparison with the previous year (Table 1). In 2005 and 2006, consumption of beef fell down because foot and mouth disease broke out in Europe. Moreover, decrease of beef consumption took place in all European countries (Ministry of Agriculture Republic of Latvia, 2007).

For the last six years, beef production as well as consumption fluctuates; however, it has a positive trend. In 2006, production reached 20.7 thsd. t, but in 2007 beef production increased by 10% compared to the previous year, meaning that production growth is balanced to consumption growth which also increased in 2007.

According to statistics data, consumption of beef compared to consumption of pork is considerably lower. For instance, in 2007 Latvia's inhabitants consumed 3.5 times more pork than beef.

Table 1

**Beef balance and pork consumption in Latvia, 2002 – 2007**

	2002	2003	2004	2005	2006	2007
Beef consumption, thsd. t	23.3	27.3	27.4	22.6	20.8	22.5
Pork consumption, thsd. t	60.9	66.2	66.7	71.4	74.6	78.1
Beef production, thsd. t	16.0	21.2	21.6	20.4	20.7	22.8
Self-sufficiency ratio in domestic market, %	68.7	77.7	78.8	90.3	99.5	101.3

Source: The author's calculations based on the data from Central Statistical Bureau of Latvia, 2003; 2004; 2005; 2006; 2007; 2008

By analyzing the statistics data, it is clear that the beef consumption in the country has been more or less stable, although in relatively small amounts. According to the opinion of Latvian researchers (Jemeljanovs and Šterna, 2008; Melece, 2008) reasons of comparatively small amounts of beef consumption could be searched in the historically established diet traditions.

However, in literature we can find information affirming that within improved living conditions and consequent shift towards healthier life style diet traditions, inter alia beef consumption trends, might change (Akbay et al., 2007). Therefore, in order to investigate beef consumption in households with different income level, we analyzed beef consumption in rural and urban households (Figure 6).

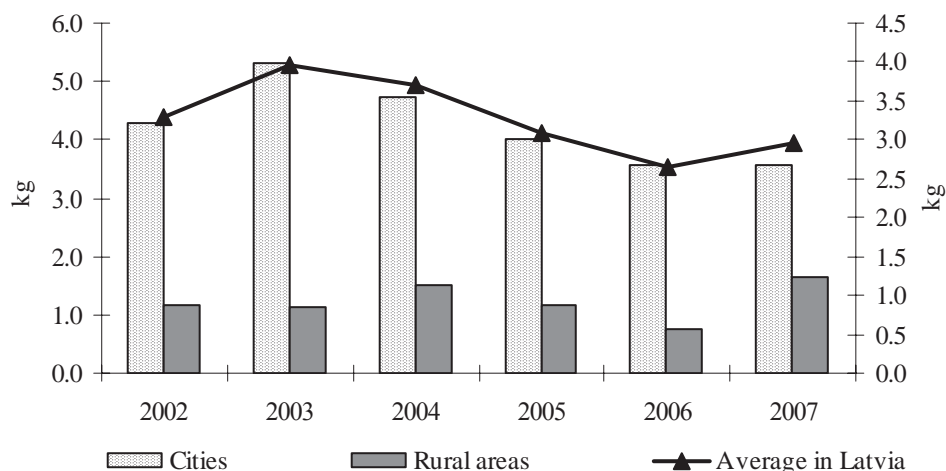


Figure 6. Beef consumption in rural and urban households (kg year<sup>-1</sup>), 2002 – 2007.

Source: The author's calculations based on data from Central Statistical Bureau of Latvia, 2003; 2004; 2005; 2006; 2007; 2008

According to summarized data, better secured urban households consume beef about 3.7 times more than rural households. Situation changed in 2007 when beef consumption in rural households increased, but beef consumption in urban households, in comparison with previous year, remained unchanged. In 2007, the average beef consumption per one household member in rural households was 1.7 kg year<sup>-1</sup>, but in urban households – 3.7 kg year<sup>-1</sup>. This could be explained with increased beef production amounts in 2007. According to Latvian researchers (Melece, 2008) approximately one third of consumed beef in rural households is home-made production.

Overall, higher beef consumption is characteristic of urban households that have higher income level than rural ones. It means that income level has positive effect on beef consumption.

Detailed study of beef consumption let us formulate certain developmental visions:

- Increase of income level of Latvia's inhabitants, could promote beef consumption and significantly increase demand of beef;
- Ongoing urbanization processes could increase number of urban population that tends to consume more beef than rural population;
- Living and acting in single European economic space food, inter alia beef, consumption patterns could change;
- Development of breeding of specialized cattle breeds could positively change consumer's attitude towards beef consumption.

## Conclusions

1. In Latvia's households the main consumption priority is expenditure for meat and meat products (25% from total food expenditure); furthermore, most of this money households spend on purchasing sausages and smoked meat (42%), but on purchasing beef – only 4% from total meat and meat products expenditure.
2. Analysis of dynamics of household expenditure on purchasing beef showed that household expenditure on beef during the last six years has been fluctuated.
3. Amount of expenditure substantially differs between households with different income level: urban households spend on average for 71% more money for purchasing beef than rural households, while richest households (5<sup>th</sup> quintile) – for 64% more money than poorest ones (1<sup>st</sup> quintile).
4. Beef consumption in the country has been more or less stable, although in relatively small amounts. Reasons of comparatively small amounts of beef consumption could be searched in the historically established diet traditions.
5. Quantities of beef consumed in 2007 in the urban households are roughly double than those consumed in rural households.
6. Income has a positive and significant effect on beef consumption, and it means that within increase of income level of Latvia's inhabitants, beef consumption and demand for beef could significantly increase.

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