

REVENUE IMPACT ON THE DEMAND OF SLOVAK HOUSEHOLDS FOR MEAT AND MEAT PRODUCTS

L. Kubicová, Z. Kádeková

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Abstract

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Global economical crisis was felt in the differences in the incomes of the households and their food consumption. In the paper are analyzed the changing patterns in the structure of demand for meat and the impact on total expenditure on meat and meat products in the households of employees, households of self-employed persons and households of pensioners.

When examining the sensitivity of demand to changes in consumer meat prices in different social groups of households was estimated own-price elasticity of demand, as well as cross-price elasticity.

income and expenses for food, own price, income and cross elasticity of demand, households of employees, self-employed persons, households of pensioners

Population as a whole, individuals and households as self clear-cut social groups, which buy products for their personal consumption create the consumer market. Each person decides on purchase of the product range everyday. Marketers and commercial production companies have to be interested in buying behavior and consumer decision-making and thus analyze the consumer demand. It is important to know the answers to questions "What, When, How and For what purpose" consumers buy. The consumer is a unique person with his or her own opinion and this should respect each company or production unit, which wants to attract and retain the customers by respecting consumers' needs and adapting to them. This postulate is especially important in the marketing of food products.

During the transformation process of the Slovak economy the variability types of households have risen. Downward trend is in the average size of households and growing pluralism of the various forms of coexistence. The share of single person households and proportion of retired households are rising. Increasing is also the share of households of single-parent families with children.

MATERIAL AND METHODS

The paper is focused on the consumption analysis of meat and meat products and on the identification of differences in demand and changes in the household consumption expenditures in Slovakia after its accession to the EU. Commodity meat has its substitutes, which allow the consumer to respond and exploit price changes of individual kinds of meat to meet their nutritional needs. In terms of economic status of head of household and his employment and consequent income, we focused on the demand for beef, pork and poultry meat and poultry products in the households of employees, households self-employed persons and households of old-age pensioners. The grounds for such an analysis were drawn from the officially published results of family accounts by Statistical Office representing so-called Panel data which includes time and cross-sectional component. This means that several objects are observed in time t ($t = 1, 2, 3, \dots, T$) and cross-sectional component (household) is observed within the household ($k = 1, 2, 3, \dots, N$). The analysis focuses on the income and consumption expenditures referred to social

groups and household consumption of beef, pork and poultry production and consumer prices of these products in Slovakia in the years 2004–2010. In examining the development of year-on-year changes in the values of monitored indicators Extensive (q_i) and Intensive variables (p_i) were used relative characteristics and time series analysis:

$$\text{Chain index } k_i = \frac{q_i}{q_{i-1}} \text{ in years } i = 2, 3, \dots, T \quad (1)$$

or

$$k_i = \frac{p_i}{p_{i-1}}.$$

The average coefficient of the growth

$$k' = \sqrt{k_1 * k_2 * \dots * k_{i-1} * k_i} \quad (2)$$

In order to determine what is the part in a change in annual expenditure on meat and meat products accounted for changes in prices of meat (p_i) per kg and their contribution in changes in quantity of consumed meat (q_i), we have used decomposition of extensive values index q_i

$$I = \frac{\sum q_i p_i}{\sum q_0 p_0} = \frac{\sum q_i p_i}{\sum q_0 p_i} \times \frac{\sum q_0 p_i}{\sum q_0 p_0}, \quad (3)$$

where:

q_i ... meat consumption in the current period in kg per person per year,

q_0 ... meat consumption in the base period, in kg per person per year,

p_i ... meat prices in the current period in EUR per kg,

p_0 ... meat prices in the base period in EUR per kg.

For the empirical analysis of the relationship and dependency of demand and consumption of individual kinds of meat and meat products on the net cash income and consumer price of meat and elasticity response of the household social group to these changes has been used the linear model of demand function:

$$q_i = f(p_i, \check{C}PP) + u_i \quad (4)$$

and model

$$q_i = f(p_1, p_2, p_3, \check{C}PP) + u_i,$$

where:

q_i ... consumption of individual meats in kg per person per year,

p_i ... price of the i^{th} kind of meat per kg,

p_1 ... price of beef,

p_2 ... price of pork,

p_3 ... price of poultry and poultry products in EUR per kg,

$\check{C}PP$...net cash income per person per year u_i – random – residual component.

In marketing decisions, it is useful to know the degree of sensitivity – elasticity of consumer demand to changes in product prices and other relevant factors and substitution relations. Based on the linear regression model the demand function we have determined the own price elasticity of demand for meat (q) from the relation:

$$Eq_i, p_i = \frac{\partial q}{\partial p_i} \times \frac{p_i}{q_i} = b_i \left(\frac{p_i}{q_i} \right). \quad (5)$$

Cross-price elasticity of demand for meat (q_i)

$$Eq_i, p_j = \frac{\partial q}{\partial p_j} \times \frac{p_j}{q_i} = b_j \left(\frac{p_j}{q_i} \right). \quad (6)$$

Income elasticity of demand

$$Eq_i = \frac{\partial q_i}{\partial I} = \frac{I}{q_i} = b_i \left(\frac{I}{q_i} \right), \quad (7)$$

where:

q_i ... i -th consumption of meat in kg per person per year,

p_j ... i -th price of meat in € per kg,

p_j ... price of substitute q_j in € per kg,

I ... net cash income of households in social groups in € per person per year.

RESULTS AND DISCUSSION

Incomes and expenditures

Financial resources available to households are a sensitive reagent for the ongoing processes in social and economic areas. Household income sources and their structure are determined by their social position particularly in the labor market. In some social groups of households, the share of monetary income to total net income varies depending on the main source of income – work. Breakdown of households in social groups is shown and evaluated by the official statistics on the basis of economic status of the head of household in employment. According this could be distinguished households of employees, self-employed (owner), households of pensioners and others (unemployed, students etc.) (ŠIMO, ROVNÝ, 2010).

It can be noted that the highest income group in the net income zone per household member is found (except the year 2010) in the households of self-employed. With lower average annual income is presented a group of households of employees, which is closely followed by a group of households of old-age pensioners. Hidden remains the income from economic activities of pensioners as a result, some of these households in terms of income ranks over society-wide average.

Development of households cash income shows an upward trend (Tab. I), which for the spotted period increased by 6.3%. From the perspective

I: Net cash incomes, consumption expenses, expenses for food and soft drinks and expenses for restaurants and public catering per household member in Slovakia in € and %

Households	Indicator	Year						
		2004	2005	2006	2007	2008	2009	2010
Employees	Net cash incomes	3 029.4	3 099.2	3 505.4	3 913.1	4 320.5	4 295.6	4 338.1
	Net cash expenses	2 890.9	2 984.5	3 425.3	3 754.3	3 947.7	3 730.9	3 818.9
	Expenses for food and soft drinks in %	16.07	22.8	21.3	20.7	20.7	20.2	17.8
	Expenses for hotel accommodation, restaurant and public catering in %	5.1	5.3	5.6	5.7	6.2	6.2	6.2
Self employed	Net cash incomes	3 295.9	3 429.9	3 541.7	4 158.3	4 384.2	4 142.2	4 419.3
	Net cash expenses	3 223.4	3 211.0	3 318.0	3 793.9	3 943.2	3 682.8	3 782.8
	Expenses for food and soft drinks in %	16.07	21.1	20.9	20.1	21.1	20.0	21.1
	Expenses for hotel accommodation, restaurant and public catering in %	4.1	4.8	4.7	4.5	4.6	4.8	4.6
Pensioners	Net cash incomes	2 900.6	3 080	3 386.8	3 743.8	4 014.1	4 357.5	4 467.6
	Net cash expenses	2 843.2	3 097.6	3 460.8	3 550.9	3 842.5	3 674.1	3 933.5
	Expenses for food and soft drinks in %	30.6	29.4	26.7	27.3	26.5	26.7	26.7
	Expenses for hotel accommodation, restaurant and public catering in %	1.3	1.5	1.8	1.8	1.8	1.7	1.607

Source: Statistical Office of the Slovak Republic, Incomes, expenditures and household consumption in the SR. Own calculations.

of different social groups, the highest average annual revenue growth (7.5%) was recorded in old-age pensioner households. Lower (5.0%) average annual growth was recorded in the income in the households of self-employed and 6.2% in the households of employees. Development of cash expenditure in the average Slovak households also shows an upward trend. Total household expenditures in total increased by 4.6% and the highest growth by 5.6% was in the households of pensioners while the average annual expenditure growth in the households of self-employed was 2.7% and in the households of employees was annual growth by 4.7%.

Development of expenditures on food items indicates the change in the structure of expenditures and has a declining trend. The highest share of food expenditures in the structure of consumption expenditures was recorded in the households of pensioners, which declined from 30.6% (year 2004) to 26.7% in 2010 (ŘECKÝ, DOBÁK, 2011). Expenditures on food in the households of retirement are by 8.9% higher than those paid by households of employees and by 5.6% higher than in the households of self-employed persons. Similar developments of food expenditures can be observed also in the Czech Republic. As stated by SEKAVOVÁ (2010) households of pensioners in 2008 in the Czech Republic spent on food and nonalcoholic beverages 26.1%, while the families of employees and self employed only 18.6%, respectively 18.7%.

Analysis of the demand for meat and meat products

Meat and meat products are most often discussed and analyzed food in Slovakia as well as abroad. Production costs and consumer prices of meat are relatively high and the meat consumption is used as a criterion for measuring standard of living. In human nutrition is meat a source of many essential nutrients (full-fledged proteins, vitamins and minerals), although the high consumption of meat is criticized by the health professionals for its high fat content, the predominant saturated fatty acids, cholesterol and purine substances. The production process of meat is relatively long (especially beef carcass) and requires a thoughtful response to changes in producer and market requirements. Knowing the price of not only producers and processors, but most consumer prices is important information for market participants with meat and meat products (KLEINOVÁ, KRETTTER, 2011).

Meat consumption in Slovakia is from 1989 and 1990 when it was probably the highest (84 kg per capita per year), gradually decreasing. Since 1995, annual average consumption fell by 0.7% to 55.8 kilograms per capita in 2010. The largest drop in consumption is reflected in beef and veal by 6.7%, while consumption of poultry and poultry meat has increased annually by 2.85% to 19.44 kg per capita (2010) and substituted the decrease in consumption of beef and veal in the lower extent also the decline in consumption of pork. In the structure of Slovak

household consumption dominated consumption of pork (57.2%), poultry and poultry meat (34.2%).

Poultry significantly enriched the menu of consumers and offers a broad view of the track (chickens, hens, turkey, guinea fowl, geese, ducks). Appreciable is also a short manufacturing process of poultry used for the slaughter and consumption (NAGYOVÁ *et al.*, 2011). In terms of demand for meat and meat products in various social groups of households and their disposable income, the highest proportion in the structure of food expenditure, excluding expenditure on bread (18.33% to 20.59%) in 2010 was spent 7.05% on pork by pensioners and 6.60% by employees. Second in order of consumption were the expenditures on poultry meat (6.97%) in the households of pensioners and 6.85% in the households of self employed persons (Tab. II).

Other food expenditures such as the expenditures on milk and milk products, vegetables, fruits, beverages occupy the structure of expenditure on food in less than 6% share. On the basis of decomposition of binary index of compounded

extensive values (3) and spending time series analysis is shown that the average annual amount of cash outflows in a subset of the commodity beef and veal (Tab. IV) were affected the most by prices (p_i), which in all social groups of households increased annually (except in 2010 for employees) by around 3%. The rise in prices of beef, at a given income reflected the fall in demand and consumption of meat (q_i). The decrease in consumption, expressed by an average annual growth coefficient (k') was the most significant 11.5% in the households of self-employed ($k' = 0.885$) and 7.9% in the households of employees ($k' = 0.921$). Market forces and developments in food prices, goods and services was reflected in consumer preferences. Households of pensioners, who have more free time to watch the price offers of goods and services were reflected in a higher overall average consumption of meat and meat products (Tab. III) bought at a lower price level. Families of pensioners enjoy more leisure time which causes increase in using of discount sales, discounts and different tools of communication mix.

II: Development of the structure of expenditures on selected food of the total food expenditures per person per year in %

Food	Employees		Self-employed		Pensioners	
	2004	2010	2004	2010	2004	2010
Bread and cereals	19.13	20.59	17.54	19.89	17.64	18.33
Beef including veal	1.88	1.47	2.37	1.94	2.03	1.77
Pork	7.19	6.59	7.82	6.60	8.21	7.05
Poultry and poultry products	7.49	4.97	7.49	6.85	7.91	6.97

Source: Statistical Office of the Slovak Republic, COICOP, own calculations

III: Average consumption in kg per capita and average consumer prices of selected food in € for the years 2004–2010

Food	Employees		Self-employed		Pensioners	
	Consumption	Price	Consumption	Price	Consumption	Price
Bread	58.78	1.47	56.67	1.46	74.52	1.39
Beef including veal	2.28	4.76	2.70	4.93	3.74	4.54
Pork	12.60	3.81	12.76	3.82	19.13	3.67
Poultry and poultry products	17.97	2.73	17.67	2.79	26.70	2.50

Source: Statistical Office, COICOP, own calculations

IV: Aggregated expenditure index of changes for beef due to the change of its consumed amount (q_i/q_{i-1}) and the influence of changes in prices (p_i/p_{i-1}) in the households of particular social groups

Year	Employees			Self-employed			Pensioners		
	Influence amount	Influence price	Expenditure Index	Influence amount	Influence price	Expenditure Index	Influence amount	Influence price	Expenditure Index
2004	x	x	x	x	x	x	x	x	x
2005	0.8241	1.0491	0.8645	0.6649	1.1121	0.7395	1.0234	1.0356	1.0598
2006	0.9231	1.0668	0.9848	1.0403	0.9897	0.9514	0.8101	1.0668	0.8642
2007	1.0463	1.0084	1.0550	1.0543	1.0229	1.0784	1.0028	1.0403	1.0432
2008	0.9735	1.0331	1.0057	1.0110	1.0366	1.0480	0.7111	1.0495	0.7463
2009	0.8773	1.0020	0.8791	0.7382	1.0039	0.7411	0.9935	0.9754	0.9691
2010	1.0674	0.990	1.0567	1.2956	1.0371	1.3436	0.9995	1.0105	1.0099

Source: own calculations

V: Aggregated expenditure index of changes for pork due to the change of its consumed amount (q_i/q_{i-1}) and the influence of changes in prices (p_i/p_{i-1}) in the households of particular social groups

Year	Employees			Self-employed			Pensioners		
	Influence		Expenditure Index	Influence		Expenditure Index	Influence		Expenditure Index
	amount	price		amount	price		amount	price	
2004	x	x	x	x	x	x	x	x	x
2005	0.9921	1.0266	1.0185	0.7917	1.0469	0.8288	1.0400	0.9843	1.0237
2006	0.9864	1.0414	1.0273	0.9495	1.0429	0.9897	0.9723	0.9947	0.9671
2007	1.0679	0.9353	0.9988	1.1945	0.8974	1.0719	1.0952	0.9653	1.0572
2008	0.9485	1.0558	1.0015	1.1390	1.0372	1.8140	0.9770	1.0497	1.0256
2009	0.9967	0.9345	0.9314	0.9520	0.9179	0.8738	0.9872	0.9368	0.9248
2010	1.0494	0.9622	1.0097	1.0593	0.9637	1.0209	0.9990	0.9522	0.9513

Source: own calculations

VI: Aggregated expenditure index of changes for poultry due to the change of its consumed amount (q_i/q_{i-1}) and the influence of changes in prices (p_i/p_{i-1}) in the households of particular social groups

Year	Employees			Self-employed			Pensioners		
	Influence		Expenditure Index	Influence		Expenditure Index	Influence		Expenditure Index
	amount	price		amount	price		amount	price	
2004	x	x	x	x	x	x	x	x	x
2005	1.0152	1.0038	1.0191	0.9754	1.0072	0.9825	1.0461	0.9759	1.0209
2006	0.9920	0.9401	0.9326	0.9540	0.9065	0.8648	0.9626	0.9547	0.9190
2007	0.9581	1.0956	1.0497	0.9633	1.1267	1.0856	0.9451	1.0733	1.0144
2008	0.9882	1.0909	1.0780	1.0614	1.0775	1.1436	0.9818	1.0803	1.0606
2009	0.9563	0.9367	0.8957	0.9551	0.9183	0.8771	1.0335	0.9554	0.9874
2010	1.0487	0.9644	1.0114	1.0388	0.9893	1.0277	0.0229	0.9689	0.9911

Source: own calculations

Results of decomposition of binary index of aggregated extensive value of demand for beef (Tab. IV) shown that spending had increased in two of the six analyzed years, when the summary index in households of employees and in the households of self-employed in 2007–2010 was higher than one. The increase in expenditure was due to the change in beef consumption q_i , as well as due to the annual growth (except the year 2010) in unit prices of meat p_i .

Favorable development of expenditures can be seen in the demand for pork and poultry (Tab. V and Tab. VI).

Decomposition of binary index of aggregated extensive value (Tables IV, V and VI) indicates that although year on year rising expenditures on these commodities in two respectively three years was maintained the constant level of consumption and expenditures for pork and poultry. Average consumption growth rates are just below 1 ($k' = 0.9258$ to 1.013) and almost identical was the evolution of changes in unit prices of the meat (p_i) ($k' = 0.985$ and 1.011). In 2010 index of expenditures on meat was higher than one in the groups of self-employed persons and employees, expenditures decreased in the group of retired persons. These changes in expenditures suggest relatively consistent behavior of particular social groups of

households, in terms of spending money on pork and poultry as well as the poultry products. From the questionnaire survey (HES *et al.*, 2009) is proven the Slovak consumer feedback on the overall level of prices of meat and poultry products is proved that 59.12% of respondents considered the price reasonable for the Slovak market and 21.9% of respondents assessed the prices of poultry as really high. The most respondents (79.56%) indicated that the increasing price of poultry meat would not change their purchasing behavior, 20.43% of respondents would change its demand for poultry meat when the price had grown and 19.34% would reduce the volume of purchased quantity of these products.

Income and price elasticity of demand for different types of meat by different social groups of households

For the empirical assessment of addiction and response of consumer demand for different types of meat analyzed by disposable income and price trends for individual types of meat was used a linear model of demand function.

The results of the analysis of demand for individual kinds of meat observed in the particular social groups of households shown that the meat is the standard good, and in 2010 took up the largest

VII: *Estimated parameters of demand functions of price and income elasticities of demand for different types of meat (1, 2, 3) in households*

Meat	Households	Parameters of function			Elasticities		Correlation Index R2
		b_0	b_1	b_2	Eq, p_1	Eq, I	
Beef including veal	Employees	9.433	-1.723	0.00036	-3.748	0.607	0.917**
	Self-employed	11.426	-2.462	0.00087	-4.490	1.259	0.723**
	Pensioners	4.342	1.940	-0.00144	-2.321	-1.410	0.777**
Pork	Employees	15.411	-0.671	-0.00007	-0.203	-0.021	0.670*
	Self-employed	22.645	-3.093	0.00049	-0.926	0.151	0.642*
	Pensioners	18.901	-0.776	0.00083	-0.149	0.161	0.621*
Poultry	Employees	23.483	-0.776	-0.00090	-0.178	-0.189	0.775**
	Self-employed	16.175	-2.378	-0.00132	-0.376	-0.292	0.555*
	Pensioners	41.577	-5.136	-0.00055	-0.480	-0.076	0.628*

Source: Statistical Office of Slovak Republic, own calculations

Note: * Statistically significant model at $\alpha < 0.05$ ** Statistically significant model at $\alpha < 0.01$ VIII: *Estimated parameters of demand functions and substitution of demand for beef and pork in particular social groups of households*

Meat	Households	Parameters of function					Elasticities		Correlation Index R2
		b_0	b_1	b_2	b_3	b_4	Eq, p_2	Eq, p_3	
Beef including veal	Employees	11,29	-3,01	0,241	-0,362	0,0010	0,396	compl.*	0,901
	Self-employed	14,01	-2,96	0,462	-2,961	0,0041	0,632	compl.*	0,921
	Pensioners	8,33	-1,05	-0,536	1,422	-0,0003	compl.*	0,960	0,970
Pork	Employees	12,93	-0,60	0,151	0,601	-0,0004	0,054	0,121	0,780
	Self-employed	19,93	-1,54	-2,101	0,766	0,0021	compl.*	0,164	0,880
	Pensioners	23,04	-9,73	2,001	5,402	-0,0003	0,480	0,718	0,960

Source: Statistical Office of Slovak Republic, own calculations

Notes: * complementary food

share of 26.78% in the structure of consumption expenditure. In old age pensioners households was share the highest one (26.68%) amounted to € 255.6 per person. In 2010 in the households of employees and households of self-employed was the average expenditure amounted to € 179.3, respectively € 186.35, that represented 25.9% of total food expenditures. This led also to the response of demand in particular households to convert their own prices for individual kinds of meat, depending on average annual income.

As can be seen in Tab. VII, the households react on demand for different types of meat on its own consumption price of meat differently. Demand for the meat consumption has a negative slope, decreases when the price grows and vice versa. Households responded to consumption, especially beef price elastically and the households of self-employment reacted by this way also on the consumption of poultry and poultry products. When increasing its own price for beef and veal, 1% of the households of self-employed responded by reducing demand by 3.748% (while the average consumption was 2.403 kg and the price was € 4.93 per kg).

In the households of employees with the average consumption of 2.277 kg and the average price of meat € 4.76 per kg, demand was reduced by 3.748%. Households of pensioner that purchased beef at lower prices (Tab. III) and hence lower quality meat

responded to transformation of their own price also elastically and at 1% price increase (at a price of € 4.544 per kg) the demand decreased on average by 1.410% per year.

The income elastic demand for beef responded only in the households of self-employed which reported the highest income group in the society of the surveyed groups (Tab. I) and 1% increase in income has increased demand for beef on average by 1.259% per year. Demand for pork and poultry meat was reflected in the households of employees and retired as a cost as well as income inelastically and on the basis of the income elasticity of demand, we classify them affirmative with basic goods (FENDEKOVÁ, 2007). Demand for pork is price elastic only in the households of self-employed where 1% increase in poultry prices caused decrease of demand by 0.926%. Income slightly elastic and contrary to theoretical assumptions was reflected demand for poultry meat in the households of self-employed, employees and pensioners. Increased income by 1% also decreased demand for poultry meat by 0.076% in the households of pensioners, even bolder in the households of self-employed ($EQI, I = -0.292$). Higher income level of the households of self-employed allowed the higher consumption of beef and veal, and partly of pork. Through the linear demand function, we analyzed multiple dependence of beef demand (q_1) in relation

to consumer prices of beef (p_1), the price of pork (p_2), poultry prices (p_3) and income (p_4).

Based on the linear demand function (Tab. VIII) can be stated that the demand for beef is in households of employees and households of self-employed can be substituted mainly by demand for pork. Growth in pork prices by 1% caused the increase in demand for beef in the households of employees by 0.396% ($E_{q_1, p_2} = 0.396$) and in the households of self-employed by 0.632%, and are mutually interchangeable. On the other hand, demand for poultry and poultry products in these households implemented complementary function. In the households of pensioners compared with the other groups in society, replacement function of demand for beef was fulfilled by the increased demand for poultry meat. Households of pensioners responded on 1% increase in prices of poultry meat by increased demand for beef by 0.960% ($E_{q_1, p_3} = 0.960$). With the increase in the price of one product increases the demand for other product and vice versa. Demand for pork (E_{q_1, p_2}) at pensioners reacts a cost differently, has a complementary function, so the increase in the price of one product decreases the demand for second and vice versa. (FENDEKOVÁ, 2007). In terms of consumption of pork the replacement feature for all societal groups performed the households demand for poultry meat (excluding households of self-employed, where the demand for beef was in the complementary relationship).

Pensioners in terms of demographic development and thanks to rising standards of living, economic climate and the level of health care, represent one of the fastest growing segments of the population (HAMBALKOVÁ *et al.*, 2011). However, they do not form a homogenous group, nor as to the level of pensions, as well as to the structure of consumption expenditures and expenditures on food. In the structure of consumption expenditure report (Tab. I) the pensioners reached the highest share in expenditures on food and the lowest share of expenditures on catering services in hotels, cafes and restaurants.

CONCLUSIONS

After accession to the EU, residents of Slovakia have recorded not only increase of income but increase of consumer expenditures as well. Income growth has been more noticeable in the households of the old age pensioners, where since 2004 the net

cash receipts have increased on average by 8.5% and in the year 2010 reached the level of € 4467.6 per person. Lower increase of incomes (7.3%) was in the households of employees and 4.7% increase of incomes was in the households of self-employed. In the households were annually also increasing the expenses on food and soft drinks. The highest nominal spending for food showed the households of pensioners, which was related to their higher consumption of food. The share of expenditure on food and soft drinks in the Slovak households is gradually decreasing. In 2010 the food expenditures in households of pensioners still occupied 26.7%, while ranged on the level of 17.8% in households of employees and self employed persons increased on 21.1%. In recent years the decline in food spending slows. In the structure of food expenditures in all groups of households the highest part was taken by the expenditures for bread and meat and meat products. Expenditures for these food had decreasing trend except for expenses for bread, which increased in the pattern of spending from 17.54% (year 2004) to 20.59% in 2010. On the basis of the aggregated index of expenditure changes could be concluded that the increase in annual expenditure on meat and meat products occurred mainly due to rising prices. The price effect was seen in all social groups of households mostly in the growth of expenditures on beef and veal.

Based on the parameters of multiple linear demand function can be reported in accordance with several authors (BIELIK, HUPKOVÁ, 2010; KUBICOVÁ, 2008) that in households of employees and self employed persons, the falling demand for more expensive beef and veal is substituted by demand for pork, while demand for poultry and poultry products performs a complementary function. Consumer behavior in the households of the old age pensioners had different preferences. Given the income opportunities and the high proportion of food expenses in the households of pensioners, the replacement functions of demand for beef was fulfilled by demand for poultry and poultry products, and the demand for pork is in the complementary relationship with beef. In the households of the pensioners and self-employed, the demand for pork was substituted by demand for beef and poultry meat, while in the households of self-employed only by demand for poultry meat, and demand for beef is in the complementary relationship with pork.

SUMMARY

The global economic crisis has significantly reflected in the household income and thus in the final consumption of the households as well as in their food consumption.

Food consumption per capita is everyone's concern and reflects the socio-economic conditions of people's lives. The paper focused on analyzing changes in the evolution of the structure of demand for meat and meat products in the various social groups of the households. Examines has been the sensitivity level of consumer demand for meat to price changes of other products and other relevant

factors and substitution relations as well as the income elasticity of demand. The calculations are based on linear regression model of the demand function, by which we determine its own price elasticity of demand for meat, cross price elasticity for meat and income elasticity of demand. Based on the results we can conclude that the households' demand for various types of meat responds differently to changes of the own meat price. Increase of pork prices determined the increase in demand for beef in the families of employees and self-employed persons and are mutually substitutable. On the other hand, the demand for poultry and poultry products in these households performs the complementary function. In the households of pensioners, compared to other social groups, substitution function of demand for beef fulfills the increased demand for poultry meat.

That lack of consumption of beef is the real problem of Slovak households in terms of compliance with the requirements of good nutrition. Consumption of beef in both Slovak and Czech Republics decreased with respect to the economic situation, in 2009 in Slovakia it was 4.4 kilograms per capita.

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Address

Ing. Lubica Kubicová, PhD., Ing. Zdenka Kádeková, Slovenská poľnohospodárska univerzita, Fakulta ekonomiky a manažmentu, Katedra marketingu, Tr. A. Hlinku 2, 949 76 Nitra, Slovenská republika, e-mail: Lubica.Kubicova@uniag.sk, zdenka_kadekova@yahoo.com