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## INCOME SITUATION OF THE HOUSEHOLDS IN THE SLOVAK AND THE CZECH REPUBLIC PRÍJMOVÁ SITUÁCIA DOMÁCNOSTÍ V SLOVENSKEJ A ČESKEJ REPUBLIKE

Lubica KUBICOVÁ,<sup>1</sup> Zdenka KÁDEKOVÁ,<sup>1</sup> Ludmila NAGYOVÁ,<sup>1</sup> Jana STÁVKOVÁ<sup>2</sup>

Slovak University of Agriculture in Nitra, Slovak Republic<sup>1</sup>  
Mendel University in Brno, Czech Republic<sup>2</sup>

This paper deals with the income situation of households in the Slovak Republic and the Czech Republic in the years 2005 – 2008. The Slovak Republic and the Czech Republic have recently experienced phases of economic growth and periods of economic crisis; this fact affects the standard of living and household behaviour and affects the formation of the life-style. Accession of the Slovak Republic and the Czech Republic to the EU opened up the new opportunities not only in the formation of incomes but also in changes of consumer habits of the population in both states. The basis for these changes was given before 1989, since when it has been possible to monitor realization of reforms. In this process, a new structure of income and expenditures was gradually formed. Assessment of the standard of living of the population and its development is affected by several indicators. The key indicators that allow assessment of the standard of living and its development are the money income, consumption and expenditure for food, housing, culture, education and health care. Data on the household incomes and the household expenditures for the stated needs point at the standard of living of the population as well as various social groups. The reciprocal comparison of the differences in expenditures for basic living needs of the household is important, too.

**Key words:** income, expenditures, households, income situation in the Slovak Republic, income situation in the Czech Republic

The paper aims to identify changes and development in consumer behavior of the population in the Czech Republic and the Slovak Republic within the years 2005 – 2008. Measuring the market size, identifying trends and the ability to predict the future development (Lesáková, Hanuláková a Vokounová, 2006) are the critical factors in identifying opportunities and risks of the market including food. On the majority of markets, there is unstable total demand or demand for individual foods and fluctuations are documented, so reliable prediction of the future demand and consumption is a key factor affecting the knowledge. It is helpful in formulating the tasks of providing nutrition policy and food needs of the population in socio-economic conditions.

The paper laid the accent on analysis and determinants qualifying the consumer demand for food with accent on the analysis and determinants of cash income. The amount of income, its resources and structure are determined by social position of the population especially in the labor market. The transformation process and expression of the financial crisis led into creation of relatively stable household groups and official statistics provides an overview of income and expenditure of the households.

In the Slovak Republic, 25 % of the households reach the lowest level of income, the pensions and social funds are the prevailing source of revenue. Their expenditure structure is typical for poor households, which must reduce their consumption. Statistical Office of the Slovak Republic provides the input empirical data on net incomes and expenditures of the households by net money income per capita for the years 2005 – 2008.

Income development of households is analysed in economic studies in relation to the political, economic and social situation in society. These are the factors that affect income inequality, and vice versa, they present the instruments of social policy, which affect income situation of households.

The article then focuses on the income differentiation of households also in the Czech Republic. For the representation of income inequality, the Lorenz curve is most often used. The Lorenz curve, as statistically detected, lies somewhere between absolutely fair and totally unequal distribution, and can be interleaved with growing exponential curve. Next way how to measure household's income inequality is by Gini's coefficient ( $G$ ), which represents variation of the Lorenz curve from the ideal. Absolutely equal distribution of income has the value  $G = 0$ . The effort to get closer to the ideal conditions leads in developed democratic states, including the Czech Republic, to redistribution. Within the redistribution, income is reduced by taxes, fees and other charges as well as increased transfer payments. Together with income inequality and its distribution, it is focused on households with income on the poverty line (Stejskal and Stávková, 2010). Poverty can be measured according to the basic life necessities, and this concept of absolute poverty is addressed by Maslow (Boháčová, 2010). Poverty can be measured as the proportion of food on total expenditure. The curve, which represents dependence of expenditure on a good on total income of consumer, is called the Engel curve (Macáková a i., 2010).

As for the Czech Republic, in the survey was applied measuring poverty line by setting 60 % of equalised median of household's income.

For detailed poverty assessment, the Gini coefficient can be used as well as indicators of material deprivation. Deprivation can be explained as physical and mental suffering. It's a lack of whatever, what is considered by specific society as valuable. The value could be represented by standard of living such as income, housing, work, health, household, education or leisure time.

Very important is the subjective perception. Some people do not perceive deprivation; even though they are deprived according to the measurement results. If the person begins to

suffer materially, it is likely that later it causes mental and social deprivation. The homelessness is considered the most serious problem of deprivation.

Therefore, developed countries use the institute of redistribution through social transfers. Social transfers are all financial flows from the government directly to individuals and households in the social context. Transfers can be defined as one-sided transaction. They are the major expenditure of fiscal policy. The main function of transfers is to reduce the impact of unequal income distribution. The word "social" means supportive or solidary – in practice the majority, living in relative affluence, helps needy minority (weaker). This system protects certain groups of people who are in difficult situations against the exclusion from the society. The social system should support and encourage self-sufficiency of people and their desire to improve the difficult living situation. Income differentiation and the effect of social transfers on income differentiation is not very frequent topic in the literature due to missing empirical data or difficulties with data gathering.

Roženský (2009) deals with mechanism of transfers to mitigate the impact of unequal income distribution, from a theoretical point of view. Večerek (2001) deals with income differentiation in terms of development of the CR before 1989 and after 1989. The structure of social transfers is made up of state benefits (benefits paid with respect to income of the family and benefits paid to families regardless of family income), pension, and benefits of material poverty, health insurance system, disability, unemployment and social services. Analysis of income differentiation according to the above mentioned considerations can be made only when a sufficient amount of relevant information exists. Sources of information are the EU-SILC (European Union – Statistics on Income and Living Conditions). The key variable, obtained by this survey is disposable monthly income per one household member. Objective of this paper is to analyse income differentiation of households, households from poverty level, the depth of poverty, material deprivation and the effect of social transfers to the redistribution of income.

## Material and methods

To analyse the survey in the Slovak Republic, there were used the methods of descriptive statistics and trends of development using the base and chain indices and the average growth factor. Analysis of the expenditure and household consumption, which resulted from their inclusion in the income quartile, was made by using the regression and correlation analysis. We based it on the regression model, and following premise:

$$RVkj = f(RPK) + ekj \quad (1)$$

where:

- $RVkj$  – real expenditure of households in the  $k$ -income quartile ( $k = 1, 2, 3, 4$ )
- for the  $j$ -food commodity, model is determined by the relation:

$$RVkj = Qkj \times Pkj$$

where:

- $RPK$  – the real money incomes of households in  $k$ -income quartile
- $Pkj$  – the real price of the  $j$ -purchased commodity in the  $k$ -income-quartile

$Qkj$  – purchased quantity of  $j$ -purchased commodity in the  $k$ -income-quartile

$ekj$  – random variable

In addressing the relation (1) we used the log-hyperbolic function:

$$RV_{kj} = \exp\left(a + b \frac{1}{RP_k}\right) \quad a > 0, b < 0 \quad (2)$$

that appropriately described the process according to real food expenditure and its dependent on real income, which has the asymptote characterizing the saturation of demand and describes trends in spending, or consumption and the large fluctuations in revenue Sznajder and Adamczyk, 2000. In addressing the demand function (1) after its transformation to a linear form, we used the method of least squares.

The suitability of different models depends on the course description of food expenditures, food consumption and the real income was considered by using the coefficient of determination  $R^2$  and parameters of regression equations using the Student's  $t$ -distribution.

The basic variable in the analysis of income differentiation of households in the Czech Republic is the level of disposable monthly income of households from the project EU-SILC (European Union – Statistics on Income and Living Conditions). This project implemented a unified methodology of the European Union since 2005. Statistical characteristics of the file (mean, median) are determined by a standard method (D-FYZ) and also converted the equalised unit (D-EKV) according to adopted common EU methodology (household means an adult with coefficient 1, each additional adult rate is recalculated with coefficient 0.5 and every child has coefficient 0.3). All other calculations and conclusions are based on equivalent values. Poverty threshold is set at a median of 0.6. It is based on theoretical knowledge of the income distribution variables (Stejskal and Stávková, 2010). The basic indicator for the determination of income inequality is the Gini coefficient. Mathematically it is formularized as follows:

$$G = 0.5 - \int F(x, d) dx \quad (3)$$

where:

- $x_i$  – is a cumulative value of population variable and  $d_i$  is an income variable

Measurement of inequality in income is done using the Lorenz curve. In absolutely equal allocation the curve (line shaped) has angle of 45 degrees to the  $x$ -axis ( $x$ -axis contains the percentage of households,  $y$ -axis percentage of revenue). The Lorenz curve, represented by the empirical values is located between absolutely equal and unequal distribution of income. This curve can be interleaved by exponential growth curve. The Gini coefficient represents the variation of the actual Lorenz curve to the ideal curve. Absolutely equal distribution of income gives Gini coefficient the value  $G = 0$ .

## Results and discussion

### Development of Cash Income and Consumption Expenditures in the Slovak Republic

Available funds and resources of the households are sensitive factors for the ongoing processes in the social and economic

**Table 1** Money incomes and expenditures of private households in quartile segmentation by net money income per person in 2005 – 2008

Coefficient (1)		1 <sup>st</sup> quartile (2)	2 <sup>nd</sup> quartile (3)	3 <sup>rd</sup> quartile (4)	4 <sup>th</sup> quartile (5)
Real money incomes (6)	average in Euro (7)	1 649.68	2366.92	2 948.23	4 577.69
	index 2008/2005	2.165	2.310	2.323	2.579
	growth coefficient (8)	1.073	1.079	1.079	1.089
Real consumer expenditures (9)	average in Euro (7)	1 688.48	2 316.01	1 688.48	4 197.18
	index 2008/2005	2.095	2.098	2.095	2.118
	growth coefficient (8)	1.069	1.069	1.069	1.071

Source: SO SR, own calculations  
Consumer price index (previous year = 100)

Zdroj: Štatistický úrad SR, vlastné výpočty  
Index spotrebiteľských cien (predchádzajúci rok = 100)

**Tabuľka 1**

Príjmy a výdavky domácností v kvartiloch podľa výšky čistého príjmu na osobu v rokoch 2005 – 2008

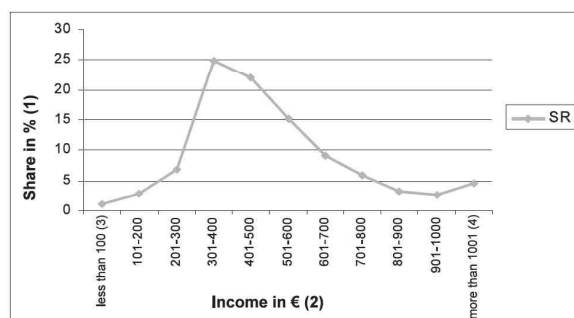
(1) koeficient, (2) prvý kvartil, (3) druhý kvartil, (4) tretí kvartil, (5) štvrtý kvartil, (6) skutočné peňažné príjmy, (7) priemer v eurách, (8) koeficient rastu, (9) skutočné spotrebiteľské výdaje

spheres of the society. The amount of the money income of the households, their sources and structure are primarily determined by their position in the labour market (Nagyová, 2009).

The transformation process in Slovakia has contributed to the creation of relatively stable household groups. The empirical analysis (Pacáková, Šípková and Sodomová, 2005) shows that the net annual money income of the Slovak households reported a non-symmetrical distribution with characteristic prolonged right end. Predominant are the households with low income. The differentiation was increasing gradually, and even if nominal earnings rose in all households, part of the households (families with more children, pensioners) are still at the level of low income and even destitution. The first quarter of household incomes located between the bottom quartile and median value, disposed with an average annual real income of 1 649.68 € per household member (Table 1).

Household income in the third quartile was in real value 2 948.23 € and 1.8 times higher than the household income in the first quartile. In the fourth quartile it was as many as 2.8 times higher than the mentioned household income in the first quartile. Growth coefficient ( $K$ ) of real income since 2005 has had an increasing trend and has ranged in diameter from 7.3% in the first income quartile ( $K = 1.073$ ) up to 9.7% in the fourth – the highest income quartile.

Adaptation mechanisms and the ongoing development showed the non-standard features and on the scale of income bands the part of households was situated in the low-income zones with a sharp drop to the average values and slower growth of the households (Figure 1).

**Figure 1** Monthly disposable income per person in Euro in the Slovak Republic

Source: SO SR, own calculations

**Obrázok 1**

Mesačný disponibilný príjem v SR na osobu v eurách

Zdroj: Štatistický úrad SR, vlastné výpočty

(1) podiel v %, (2) príjem v €, (3) menej ako 100, (4) viac ako 1 001

Average annual equivalent disposable income (Statistical office..., 2010) of the households in Slovakia was 6 629 €. The interval of disposable income per person and month from 101 € to 400 € was found in 50.0% of four-person households. The Gini coefficient that measures the inequality of income distribution (Statistical office..., 2010) marked the value 24.8. Threshold for determining the real poverty of the EU Member States is the income level of one equivalent household member in amount of 60.0% of median equivalent income (Kubicová, 2007). The results of the harmonized EU SILC survey showed that the risk of poverty rate after social transfers in the family with two children in 2008 in Slovakia was 9.9% and in families with three or more dependent children it was 27.9%.

Uneven development of pensions was reflected in consumption expenditures of the population. Total consumption expenditures by households in the fourth income quartile increased on average by 7.06% ( $K = 1.0706$ ) per year, and the first quartile of consumption expenditure growth marked 6.9%. Incomes of the households in the first quartile were insufficient to cover necessary consumption expenditures, so that part of the expenditures could be covered only through savings, loans and also undocumented (black) income. Real food expenditures were, on the other hand, counterfactual with a downward trend. Unlike the total consumption expenditure of the households with the lowest incomes which increased on average by 4.54% per year ( $K = 1.045$ ), the households located in the higher income quartiles of the median food expenditures increased on average by 4.1% ( $K = 1.041$ ).

In the absolute terms, household consumption expenditures in the fourth income quartile were only two and a half times higher than actual expenditures in the first income quartile. Expenditures for food and soft drinks were only 1.67 times higher than in the lowest income households. This confirms knowledge of Engel that the costs and quantitative demand for food grows slower than the income of population (Rovný, Dobák and Récky, 2008).

Food expenditures in the pattern of consumption expenditures were reduced in all income groups of households. The highest food expenditures for beverages and catering (32.51%) reported households in the first income quartile.

The most significant decline in food expenditure (Table 2) was in the highest income quartile of the households by 6.84 percentile points, in the third income quartile by 7.4 percentile points where the food expenditure occupied 29.94% share in the structure of consumption expenditures.

As a result of a fall of interest rates, the revenues from income and property have declined, too. The convergence of payment structures to the structures of the EU Member States

**Table 2** Structure of the consumption expenditures of households in the Slovak Republic per person per year in %

Households (1)	Consumption expenditures (=100) (2)	2005	2006
1 <sup>st</sup> quartile (3)	food, beverages and catering (7)	39.66	32.51
	non-food goods (8)	31.76	30.49
	services (9)	24.16	27.96
	other net expenditures (10)	4.42	9.04
2 <sup>nd</sup> quartile (4)	food, beverages and catering (7)	38.68	31.72
	non-food goods (8)	29.31	31.92
	services (9)	26.43	27.08
	other net expenditures (10)	5.58	9.28
3 <sup>rd</sup> quartile (5)	food, beverages and catering (7)	37.34	29.94
	non-food goods (8)	29.65	29.66
	services (9)	25.69	30.68
	other net expenditures (10)	7.31	9.73
4 <sup>th</sup> quartile (6)	food, beverages and catering (7)	31.81	24.97
	non-food goods (8)	29.97	28.17
	services (9)	29.08	31.26
	other net expenditures (10)	9.13	15.60

Source: SO SR, own calculations  
Zdroj: Štatistický úrad SR, vlastné výpočty

**Tabuľka 2** Štruktúra spotrebných výdavkov domácností v SR na osobu a rok v %

(1) domácnosti, (2) spotrebné výdaje, (3) prvý kvartil, (4) druhý kvartil, (5) tretí kvartil, (6) štvrtý kvartil, (7) potraviny, nápoje a stravovanie, (8) tovary okrem potravín, (9) služby, (10) iné čisté výdaje

has been accelerated, especially in housing, transportation, food services, although when compared to the EU-15 countries, food expenditures of Slovak households are still high (Kubicová and Kádeková, 2010). Changes in food consumption and non-food goods has been made on the basis of changes in the assortment of goods through the reasons concerning the large shopping centers and a large proportion of the products of the foreign provenance (Horská, 2011).

In the structure of consumption expenditures it was possible to observe the consequences of different dynamics of nominal income growth and cost of living. The spending on services and other expenses increased significantly in the third and especially fourth income quartile. Expenditures on clothing and footwear in 2008 were three times higher than in households with the lowest incomes. In the fourth income quartile the households spent four to five times more funds for transport, culture, recreation, furniture and home furnishings than in the first quartile.

The overall increase in spending on services (Table 2) was attributable to the growth levels of rent and municipal services. In 2008, compared with 2005, expenditures of this kind increased in all households. The highest increase was in expenditures for services (by 2.2 percentile points) and in expenditures for services and other expenses (by 6.5 percentile points). It was allowed due to particular household income in the fourth quartile as an indication of the possibility of higher claims and ensuring the living standards compared with families falling into the first, or second income quartile.

The size of consumer spending affects many factors such as tradition, family age structure, socio-economic situation of individual households and their economic environment. The results confirm that the poorer the household was, the higher were its expenditures to meet the basic living needs such as nutrition, housing, heating and lower discretionary spendings for culture, recreation and education (Kleinová and Kretter, 2011).

Changes in the level of income create a different room for maneuver for individual households. The problem is still in a high proportion of expenditure on food, beverages and catering (Table 2). This causes the pension restrictions and the sensitive consumer behavior responding to the changes in prices of goods and services. A significant part of the households, especially in the first and in the second income quartile with notable changes in prices, reduces consumption and expenditure on individual foods and in the physical units. Changes in food consumption and food expenditure pattern were analyzed from the perspective of the individual aggregate food groups and attainment of disposable money income of individual households. We focused primarily on food groups, which are indispensable and irreplaceable in ensuring the basic nutritional needs of household members.

In the Table 3 it can be observed that during the eleven seasons there had been changes in the structure of household consumption as follows:

- the growth in expenditure for vegetables, including potatoes and other tuberous plants,
- the fluctuations in expenditure in the direction of growth and decline in expenditure for milk, cheese and eggs.

Money spent on each aggregated food group and income elasticity of expenditure beyond saturation across household income groups were examined using the regression analysis. From the number of possible regression functions used in the investigation of economic phenomena we chose as an appropriate the log-hyperbolic function allowing to analyze the income elasticity of demand and to estimate the limit of saturation of demand.

**Table 3** The share of money expenditures for the aggregated food groups of the total expenditure for food and soft drinks per person per year in %

Food groups (1)	2005	2008
Milk, cheese and eggs (2)	17.2	16.3
Vegetables, potatoes and tuberous plants (3)	5.7	6.5
Fruits (4)	6.1	5.4

Source: SO SR, own calculations  
Zdroj: Štatistický úrad SR, vlastné výpočty

**Tabuľka 3** Podiel peňažných výdavkov na agregované skupiny potravín z celkových výdavkov na potraviny a nealkoholické nápoje na osobu a rok v %

(1) skupiny potravín, (2) mlieko, syry a vajcia, (3) zelenina, zemiaky a hluzovité rastliny, (4) ovocie

In the households with the lowest income, 1 % increase of income was reflected on average by 0.595 % increase in expenditures for milk, cheese and eggs. The households in the second and the third income quartile consistently elastically responded to the demand for dairy products while more wealthy households showed lower ( $E_f = 0.427$  %) expenditure elasticity. The 1 % increase in average income responded by 0.427 % increase in spending and the level of saturation could be expected to spending limit 214.25 € for milk, cheese and eggs per person per year (Table 4).

Consumer demand for vegetables is characterized by relatively high flexibility, which was reflected in all income groups of households. The households with the lowest income elastically responded to demand for vegetables, potatoes and tuberous plants. This income group of households responded to 1 % income increase by increasing of demand by 1.165 % and their demand for vegetables is seen as an elastic one. The

**Table 4** The course of dependence, saturation and income elasticity of expenditures for milk, dairy products, cheese and eggs from the real income of households by income quartiles

Income groups (1)	Parameters of functions (2)	Income elasticity $E_i$ (3)	Saturation limit (4)	$R^2$
1 <sup>st</sup> quartile (5)	$\ln RV_1 = 5.062 - 981.55 \frac{1}{RP_1}$	0.595	157.95	0.975**
2 <sup>nd</sup> quartile (6)	$\ln RV_2 = 5.308 - 1\,415.4 \frac{1}{RP_2}$	0.598	201.96	0.967**
3 <sup>rd</sup> quartile (7)	$\ln RV_3 = 5.329 - 1\,491.8 \frac{1}{RP_3}$	0.506	206.32	0.965**
4 <sup>th</sup> quartile (8)	$\ln RV_4 = 5.367 - 1\,954.6 \frac{1}{RP_4}$	0.427	214.25	0.967**

Source: own calculations

Zdroj: vlastné výpočty

\*\* Statistically proven parameter, significance level  $\alpha = 0.01$ \*\* Štatisticky preukazné parametre, hladina významnosti  $\alpha = 0.01$ **Tabuľka 4** Vývoj závislostí, príjmové elasticity a bod nasýtenia pri výdavkoch na mlieko, mliečne výrobky, syr a vajcia z reálneho príjmu domácností podľa príjmových kvartilov

(1) príjmové skupiny, (2) vlastnosti funkcie, (3) príjmová elasticita, (4) limit saturácie, (5) prvý kvartil, (6) druhý kvartil, (7) tretí kvartil, (8) štvrtý kvartil

**Table 5** The course of dependence, saturation and income elasticity of expenditures for vegetables, potatoes and chervil plants from the real income of households by income quartiles

Income groups (1)	Parameters of functions (2)	Income elasticity $E_i$ (3)	Saturation limit (4)	$R^2$
1 <sup>st</sup> quartile (5)	$\ln RV_1 = 4.500 - 1\,921.8 \frac{1}{RP_1}$	1.165	90.06	0.914**
2 <sup>nd</sup> quartile (6)	$\ln RV_2 = 4.586 - 2\,215.4 \frac{1}{RP_2}$	0.936	98.11	0.943**
3 <sup>rd</sup> quartile (7)	$\ln RV_3 = 4.575 - 2\,727.1 \frac{1}{RP_3}$	0.925	97.03	0.939**
4 <sup>th</sup> quartile (8)	$\ln RV_4 = 4.683 - 2\,906.8 \frac{1}{RP_4}$	0.636	108.1	0.960**

Source: own calculations

Zdroj: vlastné výpočty

\*\* Statistically proven parameter, significance level  $\alpha = 0.01$ \*\* Štatisticky preukazné parametre, hladina významnosti  $\alpha = 0.01$ **Tabuľka 5** Vývoj závislostí, príjmové elasticity a bod nasýtenia pri výdavkoch na zeleninu, zemiaky a hluzovité rastliny z reálneho príjmu domácností podľa príjmových kvartilov

(1) príjmové skupiny, (2) vlastnosti funkcie, (3) príjmová elasticita, (4) limit saturácie, (5) prvý kvartil, (6) druhý kvartil, (7) tretí kvartil, (8) štvrtý kvartil

**Table 6** The course of dependence, saturation and income elasticity of expenditures for fruit from the real income of households by income quartiles

Income groups (1)	Parameters of functions (2)	Income elasticity $E_i$ (3)	Saturation limit (4)	$R^2$
1 <sup>st</sup> quartile (5)	$\ln RV_1 = 3.778 - 951.8 \frac{1}{RP_1}$	0.577	43.74	0.879**
2 <sup>nd</sup> quartile (6)	$\ln RV_2 = 4.150 - 1\,368.1 \frac{1}{RP_2}$	0.578	63.48	0.872**
3 <sup>rd</sup> quartile (7)	$\ln RV_3 = 4.159 - 1\,158.6 \frac{1}{RP_3}$	0.393	64.00	0.799**
4 <sup>th</sup> quartile (8)	$\ln RV_4 = 4.437 - 1\,931.8 \frac{1}{RP_4}$	0.422	84.60	0.892**

Source: own calculations

Zdroj: vlastné výpočty

\*\* Statistically proven parameter, significance level  $\alpha = 0.01$ \*\* Štatisticky preukazné parametre, hladina významnosti  $\alpha = 0.01$ **Tabuľka 6** Vývoj závislostí, príjmové elasticity a bod nasýtenia pri výdavkoch na ovocie z reálneho príjmu domácností podľa príjmových kvartilov

(1) príjmové skupiny, (2) vlastnosti funkcie, (3) príjmová elasticita, (4) limit saturácie, (5) prvý kvartil, (6) druhý kvartil, (7) tretí kvartil, (8) štvrtý kvartil

limit of elasticity is close to the demand for this food group in the households in the second and the third income quartile. Demand for vegetables in the households with the highest incomes was inelastic and 1 % increase of income caused an average 0.636 % increase in expenditures for this food group (Table 5). Then, the limit of saturation of demand for vegetables was reached on the level of spending 108.1 € per person per year.

Income elasticity of demand for fruits showed a similar course (Table 6) depending on the elasticity of demand and consumer expenditures which was reflected in the household demand for milk and dairy products. From the results we can conclude that the demand for fruits showed the lowest level of tightness, depending on real disposable incomes compared to the other food commodities analyzed in this paper.

### Development of Cash Income and Expenditures in the Czech Republic

Basic information about income situation of Czech households in the years 2005 – 2008 is in Table 7.

Table 7 shows that the average income per household member in the years 2005 to 2008 increased from 9.152 CZK to 10.901 CZK. Average income per one household member (D-FYZ) can be used for comparison of the development in the years 1988, 1992 and 1996, Večerek (2001) states. It is based on Mikrocensus survey realized by the Czech Statistical Office using very similar methodology to indicator D-FYZ. In 1988, Večerek (2001), presented the value of 1.858 CZK per

1 household member, in 1992 the value of 2.808 CZK and in 1996 the value of 5.292 CZK. In 2005 it reached the value of 9.152 CZK and in 2008 the value of 10.901 CZK for a household member (Table 7). Development of indicators in selected years between 2005 and 2008 related to 2005 as a basis represents the Table 8.

The Table 8 contains two characteristics of D-and D-FYZ ACS; due to all calculations for comparison are based on recalculated (equalized) household members. The average monthly income of household member D-ACS has increased from 12 232 CZK in 2005 to 14 627 CZK in 2008 which is a difference of 19.5 %. The median for this period increased by 21.9 %. The large relative increase in median income indicates a favorable income situation of households. Higher average

**Table 7** Income situation of the Czech households

Characteristics (1)	2005	2006	2007	2008
Average D-FYZ (income per month per one household member) (2)	9 152	9 455	10 184	10 901
Average D-EKV (income per month per one equalized household member) (3)	12 232	12 629	13 620	14 627
Basic index – average income per month D-EKV in % (4)	100	103.25	111.35	119.58
Median in CZK (5)	10 500	10 958	11 815	12 798
Poverty threshold in CZK (6)	6 300	6 575	7 089	7 679
Absolute number of households at risk of poverty (7)	296	486	578	628
Relative number of households at risk of poverty in % (8)	6.80	6.49	5.97	5.56
The Gini coefficient (9)	0.25	0.24	0.24	0.23

Source: own calculations

Zdroj: vlastné výpočty

**Tabuľka 7** Príjmová situácia domácností v ČR

(1) charakteristika, (2) priemerný D-FYZ (mesačný príjem jedného člena domácnosti), (3) priemerný D-EKV (mesačný príjem jedného člena domácnosti – ekvivalizovaný), (4) základný index – priemerný mesačný príjem D-EKV (v %), (5) medián (v CZK), (6) prah chudoby (v CZK), (7) absolútny počet domácností ohrozených rizikom chudoby, (8) relatívny počet domácností ohrozených rizikom chudoby, (9) Giniho koeficient

**Table 8** Basic index

Basic index in % (1)	2005	2006	2007	2008
Average income per month D-FYZ (2)	100	103.31	111.28	119.11
Average income per month D-EKV (3)	100	103.25	111.35	119.58
Median and poverty threshold in CZK (4)	100	104.36	112.52	121.89

Source: own calculations

Zdroj: vlastné výpočty

**Tabuľka 8** Základný index

(1) základný index, (2) priemerný mesačný príjem D-FYZ, (3) priemerný mesačný príjem D-EKV, (4) medián a prah chudoby v CZK

**Table 9** Sum of household income D-EKV according to income deciles

Deciles in % (1)	2005		2006		2007		2008	
	absolute expression in thousands CZK (2)	relative expression in % (3)	absolute expression in thousands CZK (2)	relative expression in % (3)	absolute expression in thousands CZK (2)	relative expression in % (3)	absolute expression in thousands CZK (2)	relative expression in % (3)
0 – 10	2 396	4.50	4 373	4.63	6 190	4.70	7 918	4.79
10 – 20	3 232	6.07	5 810	6.15	8 199	6.22	10 369	6.28
20 – 30	3 653	6.86	6 545	6.93	9 217	6.99	11 620	7.03
30 – 40	4 022	7.56	7 204	7.62	10 091	7.66	12 742	7.71
40 – 50	4 386	8.24	7 849	8.31	10 961	8.32	13 852	8.39
50 – 60	4 814	9.05	8 597	9.10	12 005	9.11	15 202	9.20
60 – 70	5 384	10.12	9 560	10.12	13 380	10.15	16 887	10.22
70 – 80	6 180	11.61	10 914	11.55	15 266	11.58	19 176	11.61
80 – 90	7 317	13.75	12 970	13.72	18 117	13.75	22 604	13.68
90 – 100	11 837	22.24	20 681	21.88	28 349	21.51	34 823	21.08

Source: own calculations

Zdroj: vlastné výpočty

**Tabuľka 9** Súčet príjmov domácností D-EKV podľa výšky príjmov v decilových skupinách

(1) decily v %, (2) absolútne vyjadrenie v tis. CZK, (3) relatívne vyjadrenie

**Table 10** Basic needs of households

Number of households (1)	Material deprivation – basic needs in % (2)							
	a week of holiday (3)		meat, fish, poultry every other day (4)		sufficient heating of a flat (5)		new clothes (6)	
	2005	2008	2005	2008	2005	2008	2005	2008
Total (7)	57.02	58.29	80.83	86.08	89.20	92.72	65.85	x
Living below the poverty threshold (8)	22.97	23.57	58.45	67.04	79.39	81.69	40.54	x

Source: own calculations

Zdroj: vlastné výpočty

**Tabuľka 10** Základné potreby domácností

(1) počet domácností, (2) materiálna deprivácia – základné potreby v %, (3) týždenná dovolenka, (4) mäso, ryby alebo hydina každý druhý deň, (5) dostatočné vykurovanie bytu, (6) nové šaty, (7) spolu, (8) život pod prahom chudoby

income per household member reached more households. Table 9 presents the frequency of households in different deciles for better orientation in income differentiation.

The decile distribution table is understood by rule, that the first two deciles represent households known as lower class; from the third to the eighth deciles include households known as middle class and households from ninth and tenth deciles represent higher class. Table 9 shows that in the period 2005 – 2008 the differences between lower and higher class increased, which is understood as a negative state.

Calculations of poverty indicators (Table 8) show that 6.8 % of households in 2005 lived at poverty threshold. Threshold of poverty in this year was represented by the income of 6 300 CZK per 1 household member monthly. In 2008, 5.56 % lived at poverty threshold, which was 1.24 % less than in 2005 and the poverty threshold was at 7 679 CZK. The Gini coefficient in surveyed period declined from 0.25 to 0.23, which indicates the decreasing income differentiation. To comment, we state the Gini coefficient which is mentioned by Večerek (2001) for the period he documented in his paper. In 1988, the Gini coefficient was 0.19. This corresponds to the fact that in the period of planned management the income differentiation is relatively low; it is mainly influenced by demographic factors (age, sex, number of children), thus by the “needs”. In 1992 the Gini coefficient reached the value 0.25, in 1998 it reached the value 0.27. The increasing value of the Gini coefficient signifies increasing income differentiation, increasing influence of socio-economic factors as education and ability to succeed in the labor market. The increase of income differentiation among 1990 – 1998 also reflects the changes in society, the transition to a market economy and democratic principle of government in society. These reasons correspond to the decline of the Gini coefficient of income differentiation in 2005 and 2008, when the

society was stabilizing and gradually adapting to those changes. For representation, the Lorenz curve is shown in Figure 2, based on values from 2008.

Income of the inhabitants of the Czech Republic is mainly spent for the basic needs – the results of survey are shown in Table 10.

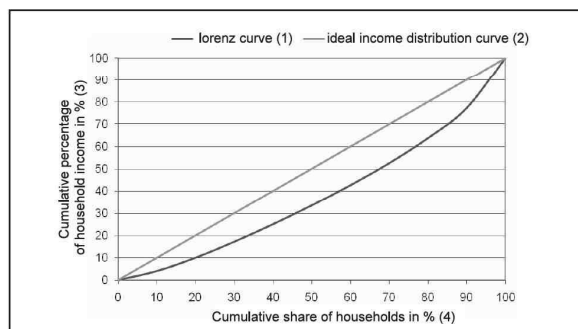
In 2005, 57.02 % of households could afford a week of holiday away from home, in 2008 the number increased to 58.29 %. In 2005, meat was eaten every other day by 80.83 % of households and also in this category there is an increase to 86.08 %. Within the question about basic needs, the most positive answers were found for fulfilling the need “sufficient heating of a flat”, in 2005 it was 89.20 % of households and in 2008 this value increased to 92.72 %.

At-risk-of-poverty households could afford a week of holiday away from home in 23 % in both years. There was a positive development for these households in the field of food, compared to 2005 there was increase to 67.04 %, which is 8.59 %. About 80 % of at-risk-of-poverty households are content with sufficient heating in both years.

## Conclusions

In the advanced economies, the human needs were shifted to a higher level of needs within Maslow's Needs Triangle, where the basic level is formed by the physiological needs. Consumers expect the food to be wholesome to contribute to the protection of their health and the consumers by this way also demonstrate their image and life attitude. Pension elasticity of these attributes is changed simultaneously with the income growth. The consumer demand shifts towards more valuable, better processed and prepared foods and intermediate products. During the transformation period in the SR there originated the differences in income and wealth, reflected also in total consumption and expenditures for food. The real and nominal incomes of the households were in the fourth quartile 2.8 times higher than the household income in the first quartile. A high proportion of the household food expenditures limits the households in decisions about the amount and structure of the consumed food. The different income levels and price developments are strongly reflected in the changes in the structure of consumption expenditures. In the evolution of the demand and structure of expenditures over the eleven year period, the following trends can be observed:

- declining but still high share of expenses for food, beverages and catering, but these were reduced on average by 4.9 – 7.5 percentile points by transition to the higher income quartiles,
- the costs for services and other net expenses increased significantly, especially in the households of the income groups located on the right side of the median income distribution,
- increasing of expenditures for bread and bakery products, vegetables including potatoes and tuberous plants,

**Figure 2** Lorenz curve in 2008

Source: own calculations

**Obrázok 2** Lorenzova krivka v roku 2008

Zdroj: vlastné výpočty

(1) Lorenzova krivka, (2) krivka ideálneho rozdelenia príjmu, (3) kumulatívne percento príjmu domácností, (4) kumulatívny podiel domácností

- the small differences in income elasticity of demand for milk and milk products,
- the high income elasticity was reflected in the households with the lowest income, particularly in the demand for vegetables, potatoes and other tuberous plants. By transition to the higher income quartiles, the income elasticity of demand fell in all food groups and was the lowest in the households in the fourth, the highest income quartile,
- there were negative high prices of the consumer goods and services in comparison with the level and growth of incomes in the meaningful part of the Slovak households. Limit for the risk of poverty in the households with two children rose since 2005 from 4 737.4 € to 6 183.3 € in 2008 (Statistical office..., 2010). After social transfers, 9.9 % of households with two children and 27.9 % of households with three or more dependent children were below the poverty line.

In the Czech Republic, the analysis of income differentiation revealed the improvement in income situation of households in surveyed years. The average income per household member increased by 19.5 %, the median value increased by 21.9 %. This indicates more frequent values around the average. When the poverty threshold increased from 6 300 CZK to 7 679 CZK, the number of at-risk-of-poverty households declined from 6.8 % to 5.56 %. The value of the Gini coefficient declined from 0.25 to 0.23, which also indicates reduction of income differences. Factors influencing this situation are evident from results of the survey of segmented households. The financial economic problem becomes more and more the social and political problem. The influence of social income demonstrably contributes to restriction of income inequality, but the following facts are also shown, at first not all items of social transfers work always positively and then they are not always reversibly properly targeted. With regard to complexity of income differentiation of households and the use of all instruments to remove income inequalities, all analyses of empiric data, which inform not only about development of income but also about impacts of redistribution, are substantiated and useful.

## Súhrn

Príspevok sa zaoberá príjmovou situáciou domácností v Slovenskej a Českej republike v rokoch 2005 až 2008. Slovenská a Česká republika v poslednom čase zaznamenali fázy ekonomického rastu ako aj obdobie hospodárskej krízy. Táto skutočnosť má nemalý vplyv na životnú úroveň a správanie domácností a tvorbu ich životného štýlu. Samotný vstup Slovenskej a Českej republiky do EÚ otvoril nové možnosti nielen pri vytváraní príjmov, ale aj pri zmenách spotrebných zvyklostí obyvateľov v oboch štátoch. Základom pre tieto zmeny bol rok 1989, od tejto doby bolo možné sledovať implementáciu reforiem. V tomto procese sa postupne vytvorila nová štruktúra príjmov a výdavkov. Hodnotenie životnej úrovne obyvateľov a jeho vývoj sa vykonáva na základe niekoľkých ukazovateľov. Kľúčové indikátory, ktoré umožňujú hodnotenie životnej úrovne a jej rozvoj sú peňažné príjmy, potreba a výdavky na potraviny, bývanie, kultúru, školstvo a zdravotníctvo. Spotrebiteľský dopyt sa posúva smerom k vyšším cenám za kvalitnejšie spracovanie potravín a polotovarov. Reálne a nominálne príjmy domácností v Slovenskej republike boli v štvrtom kvartile sledovaného obdobia v priemere 2,8-krát vyššie než príjem domácnosti v prvom kvartile. Vysoký podiel výdavkov domácností SR na potraviny obmedzuje domácnosti pri rozhodovaní o výške

a štruktúre spotreby potravín. Rôzne úrovne príjmov a cien sa výrazne odrážajú v zmenách v štruktúre výdavkov na spotrebu. V ČR analýza príjmovej diferenciacie ukázala zlepšenie príjmovej situácie domácností sledovaných v rokoch 2005 až 2008. Priemerný príjem na člena domácnosti vzrástol o 19,5 %, stredná hodnota sa zvýšila o 21,9 %, to znamená častejšie hodnoty okolo priemeru. Dôležité je aj vzájomné porovnanie rozdielov vo výdavkoch na základné životné potreby domácnosti. Faktory ovplyvňujúce tento stav sú evidentné z výsledkov prieskumu segmentácie domácností.

**Kľúčové slová:** príjmy, výdavky domácností, príjmová situácia v Slovenskej republike, príjmová situácia v Českej republike

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Contact address:

Ing. Lubica Kubicová, PhD., Slovak University of Agriculture in Nitra, Faculty of Economics and Management, Department of marketing, Tr. A.Hlinku 2, 949 76 Nitra, Slovak Republic, e-mail: [Lubica.Kubicova@uniag.sk](mailto:Lubica.Kubicova@uniag.sk)