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Regional development and private consumption structure in Latvia

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Abstract

The matter of the territories' facilitation development in Latvia's regional economics is significant under the EU conditions. In order to compare the regional economic development level it is suggested to use the relation between consumer income growth and changes in expenditures on food and non-alcoholic beverages. The average income level of inhabitants in Riga region is higher than in other Latvian regions, which consequently demonstrates lower proportion of food expenditure in private consumption structure. The results of the analysis of covariance demonstrate that, first, Latvian regional level of economic development is significantly different from Latvia's average development level and, second, there is still a gap among living conditions in Latvia's regions.

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1. Introduction

The issue of the facilitation development of territories in Latvia regional economic is significant under the EU conditions. For evaluation of living condition and living standards of society in Latvia two surveys, Household budget survey and the survey "Community statistics on income and living conditions" have been carried out by Central Statistical Bureau of Latvia (2015). Both surveys provided comprehensive information on income, consumption expenditure and living conditions in Latvia that are analyzed by Balina and Arhipova (2008).

To reflect, the private consumption expenditure structure and Dutch household consumption behavior also have been considered by Limosani and Millemaci (2011) in the regional development analysis. In the study by Blundell

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and Etheridge (2010) the evolution of the inequality in the consumption, income, earnings, labour market participation, hours of work in the UK and the relationship between them has been analyzed. Various aspects of inequality in Canada by Brzozowski et al. (2010) have been researched.

The research results show that income and consumption inequality increased over the last years. In the study by Jappelli and Pistaferri (2010) was found that in Italy during the sample period income inequality was higher and grew faster than consumption inequality. To analyze the various aspects of economic inequality in Japan the authors Lise et al. (2014) concluded that the rise in consumption inequality is substantially lower than earnings inequality. Income inequality has a negative effect on the household consumption rate. As a result by Jin et al. (2011), rising inequality in China is an important reason for the low household consumption rate.

According to a Ernst Engel' law the percentage of income spent on food rises slower than the percentage increase in income or that the proportion of income spent on food decreases as income increases, considering that other factors remain constant. With the household income growth, the absolute food expenditure increases. However, in comparison to other goods' expenditure, the food expenditure relatively decreases. With the income growth, consumers can spend more money on other goods which promote better and more varied lifestyle. For example, although some of the extra income the consumers can spend on higher quality food products and other needs, more money is also spent on, for instance, on concerts, cinema, theater, more expensive purchases and trips during the holidays. In contrast, financially disadvantaged consumers spend most of their income on food and accommodation.

Consequently, a more developed region faces a smaller proportion of food expenditure in the total private consumption compared to the regions with lower development level. Therefore, the goal of this article is to analyze the trends of expenditure level and structure of disposable income and consumption of Latvian households during the 2003-2013 period in different regions of Latvia.

2. Analysis of income and private consumption structure

The analysis has been conducted using the data of Household budget survey and the results of Central Statistical Bureau of Latvia (2015). First, an average income in Latvia regions from 2004-2012 of one member of the household is reviewed. In statistical surveys disposable income is defined as any income received in cash, value of goods received for providing services or goods, wages and salary, other work related income, bank transfers, net income from entrepreneurial activity and agricultural production, income from property, rent etc.

As seen in Figure 1, the analyzed income data had been increasing until 2008 in all areas of households, when during the crisis period the income dropped and started recovering in the last two years. Average disposable income per household member in Riga and Riga suburb regions is the highest, whereas the average disposable income per household member in Latgale region was the lowest.

For regional private sector analysis the following data from 2003 – 2013 have been reviewed: food and non-alcoholic beverages consumption, recreation and culture expenditure (Tab.1). After having analyzed the data of food products expenditure share (%) in the private sector, it becomes obvious that the lowest share in private expenditure structure is Riga and Riga suburb regions.

As seen in Figure 2 the highest food share in the whole private consumption expenditure sector is in Latgale region. In addition, the structure change tendency throughout the years in relation to the food product share depends on the whole household expenditure, as well as the location (region) during the 2003-2013. After having analyzed recreation and culture share from the total consumption expenditure, it becomes obvious that the highest share is relatively in Riga and Riga suburb regions, whereas the lowest share is in Latgale region. Moreover, the annual tendency of structure change with regards to recreation and culture share depends on the whole household expenditure and on the region during the 2003-2013 period.

Having summarized the gathered information, it is evident that based on the data of the private consumption expenditure structure the following hypothesis can be proposed: the connection between consumer income growth and the change of food consumption characterizes the residents' wellbeing level in Latvian region. The residents' average income level in Riga region is higher than in other Latvia's regions, hence, the food consumption share in the private sector is lower. However, Latgale residents' average income level is the lowest, therefore, the food consumption expenditure share in the private sector is the highest.

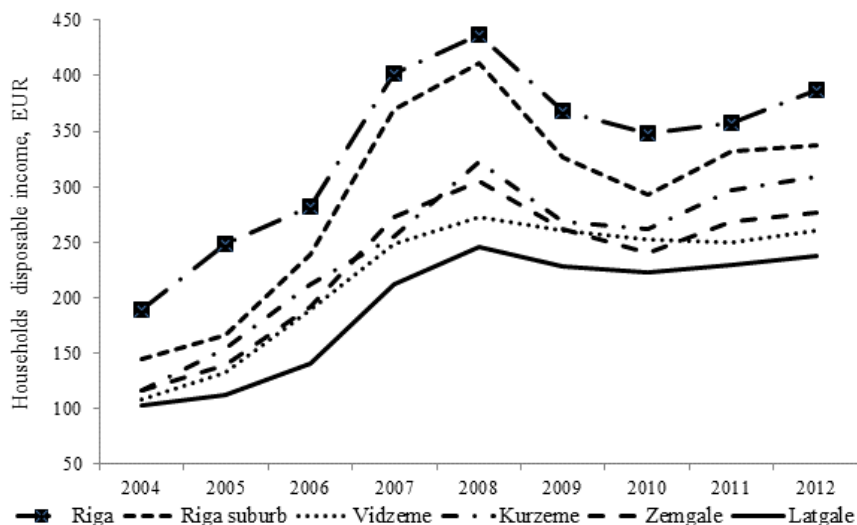


Fig. 1. Households disposable income in statistical regions of Latvia on average per household member per month from 2004 to 2012.

Table 1. An average consumption expenditure structure per household member per month (EUR) from 2003 to 2013.

Expenditure (EUR) in year	Regions					
	Riga	Riga suburb	Vidzeme	Kurzeme	Zemgale	Latgale
Total in 2003, incl.	203.73	134.36	111.18	123.38	114.67	97.51
Food products	53.68	44.55	42.46	42.76	42.37	41.97
Recreation and culture	16.08	7.78	6.53	7.34	6.29	4.64
Total in 2004, incl.	215.28	157.9	138.46	147.47	137.53	115.68
Food products	54.5	48.41	47.45	46.46	49.56	45.69
Recreation and culture	15.62	7.84	9.32	9.11	7.51	5.39
Total in 2005, incl.	241.95	184.67	140.84	152.16	154.34	138.15
Food products	63	58.35	51.38	50.14	52.25	53.37
Recreation and culture	19.32	10.64	9.76	9.66	7.4	7.44
Total in 2006, incl.	286.24	214.3	188.56	200.9	186.38	161.57
Food products	68.33	61.2	56.26	57.65	59.48	60.74
Recreation and culture	26.31	13.82	12.55	14.34	11.54	7.64
Total in 2007, incl.	345.26	309.43	234.36	260.6	240.32	227.26
Food products	77.08	70.36	69.51	70.32	68.54	73.14
Recreation and culture	32.27	24.73	18.6	21.7	17	13.35
Total in 2008, incl.	405.56	360.37	270.42	293.64	285.31	258.27
Food products	91.09	86.51	77.43	79.91	79.2	81.05
Recreation and culture	39.34	29.11	22.82	23.68	19.96	15.71
Total in 2009, incl.	335.1	278.06	233.12	249.5	250.4	233.45
Food products	79.45	72.89	70.7	69.32	66.53	76.55
Recreation	33.14	22.52	16.76	16.7	16.66	12.45

and culture						
Total in 2010, incl.	323.4	229.58	205.88	216.67	205.45	210.57
Food products	79.88	65.92	64.87	64.98	67.24	71.4
Recreation and culture	26.21	15.84	15.85	14.29	13.15	10.4
Total in 2011, incl.	329.86	254.86	246.06	239.55	237.68	207.48
Food products	83.15	70.55	78.81	76.65	73.05	72.69
Recreation and culture	26.78	15.13	17.93	12.56	13.7	10.54
Total in 2012, incl.	342.19	289.37	239.68	251.09	236.65	236.25
Food products	84.28	81.32	73.29	71.54	75.21	78.22
Recreation and culture	25.6	19.25	14.17	16.97	12.01	13.97
Total in 2013, incl.	365	305.59	260.56	271.29	262.36	240.62
Food products	92.05	81.12	84.59	81.65	79.32	81.43
Recreation and culture	27.81	23.1	17.11	18.66	16.07	13.89

Source: Central Statistical Bureau of Latvia (2015).

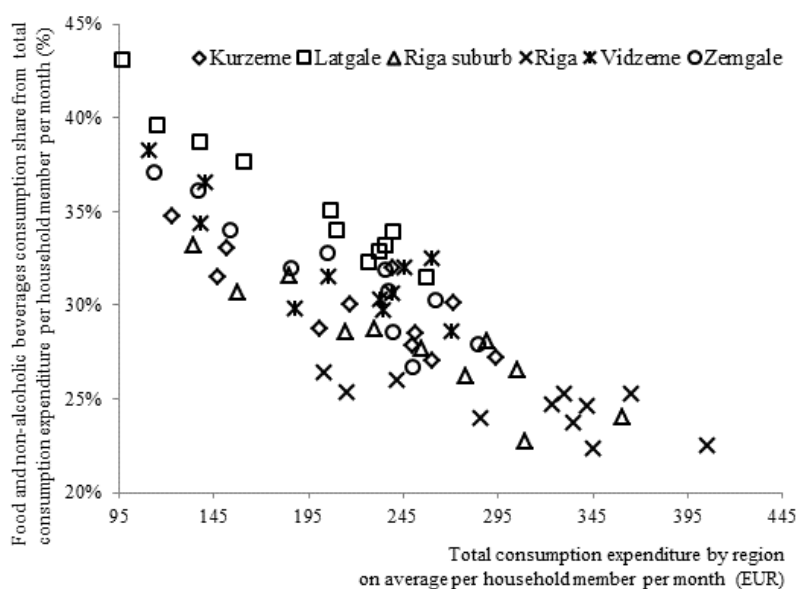


Fig. 2. Food and non-alcoholic beverages consumption share from the total consumption expenditure by region on average per household member per month from 2003 to 2013.

The data of both figures show that the difference between the regions' living conditions, especially amongst Riga, Riga suburb and Latgale household living conditions in the current decade has not changed. Nevertheless, on the whole, the living conditions amongst all the household groups have improved. Meanwhile, the higher the urbanization level, the higher the living conditions' growth rate.

The second question which has been researched is - how has the living conditions changed during the current decade amongst various households. The data (Table 1) demonstrates that the consumption expenditure amongst the households have increased amongst all six regions. It can be concluded that the differentiation among the households in Riga and fifth Latgale regions has tendency to decrease.

Having collected the results of the quantitative analysis, the following hypothesis is proposed: regional economic level differs from Latvia's average development level. In addition, Riga region has the highest economic development level, which is followed by Kurzeme region, Vidzeme and Zemgale regional level, whereas Latgale is the region with the lowest development level.

3. Empirical model and estimation results of private consumption expenditure structure

To identify the effect of the private consumption expenditure on private consumption expenditure structure behavior, we estimate the following two empirical models:

$$F = \alpha_1 + \beta_1 \cdot \ln(E) + \gamma_1 \cdot Y + \delta_1 \cdot t + \varepsilon_1 \quad (1)$$

where F is an average food and non-alcoholic beverage consumption share from total consumption expenditure per household member per month (%) and E is an average total consumption expenditure per household member per month (EUR). Control variable Y includes Latvia regions fixed effects and t includes annual fixed effects, and

$$R = \alpha_2 + \beta_2 \cdot \ln(E) + \gamma_2 \cdot Y + \delta_2 \cdot t + \varepsilon_2 \quad (2)$$

where R is an average recreation and culture consumption share from total consumption expenditure per household member per month (%) and E is an average total consumption expenditure per household member per month (EUR). Control variable Y includes Latvia regions fixed effects and t includes annual fixed effects.

In Eq. (1), γ_1 measures the effect of region inequality on food and non-alcoholic beverage consumption, δ_1 measures the effect of annual inequality on food and non-alcoholic beverages consumption and β_1 is the total consumption expenditure elasticity of food and non-alcoholic beverage consumption.

In Eq. (2), γ_2 measures the effect of region inequality on recreation and culture consumption, δ_2 measures the effect of annual inequality on recreation and culture consumption and β_2 is the total consumption expenditure elasticity of recreation and culture consumption.

This analysis of covariance results show that when an average total consumption expenditure per household member per month increases by 1%, food and non-alcoholic beverages consumption share from an average total consumption expenditure per household member per month significantly decreases by 0.189% ($p < 0.05$). In addition, the tendency of the structure change in relation to the food consumption share depends on the region ($p < 0.05$) and on the year ($p < 0.05$) in the 2003-2013 period.

Next, analysis of covariance results show that when an average total consumption expenditure per household member per month increases by 1%, recreation and culture consumption share from an average total consumption expenditure per household member per month increases non-significant by 0.012% ($p = 0.44$). In addition, the tendency of the structure change in relation to the recreation and culture share depends on the regions ($p < 0.05$) and on the year ($p < 0.05$) in the 2003-2013 period.

To summarize, the results show that there is relation between consumer total expenditure growth and changes in consumption of food products, recreation and culture. This phenomenon characterizes the welfare level of the population in Latvian regions.

4. Conclusions

After having analyzed the data on the share of food expenditure in private consumption structure of Latvian regions, it was found that over the past decade the lowest proportion of private food consumption in total private consumption structure was in Riga and Riga suburb regions, while the highest proportion was in Latgale region. Besides, structural changes in trend over the years with respect to the proportion of the food expenditure depend on the year.

To summarize, the results show that there is relation between consumer income growth and changes in consumption of food products. This phenomenon characterizes the welfare level of the population in Latvian regions. The average income level of inhabitants in Riga region is higher than in other Latvian regions, which

consequently demonstrates lower proportion of food expenditure in private consumption structure. On contrary, average income in Latgale region is the lowest, therefore, the food expenditure share of private consumption structure is the largest. The results of the analysis of covariance demonstrate that, first, Latvian regional level of economic development is significantly different from Latvia's average development level and, second, there is still a gap among living conditions in Latvia's regions.

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