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## **DO SHARES OF FOOD EXPENDITURE IN THE EUROPEAN UNION CONVERGE? A COUNTRY-LEVEL PANEL DATA ANALYSIS**

***Abstract.** The paper investigates convergence in food shares expenditure between European Union countries. This issue is important in the context of economic and social cohesion in the EU. We adopt approach that the food share can be used as a proxy variable that reflects the standard of living of average households in a given country. We focus on two concepts of convergence: absolute (unconditional) beta convergence and sigma convergence. While the former focuses on detecting possible ‘catching-up’ processes, the latter refers to a reduction of disparities among countries in time.*

*The data in this study comes from the Eurostat database and cover the period between 1995 and 2012. The analysis concerns the EU countries, however a particular attention is paid to Central and Eastern Europe Countries (CEEC) and a comparison of their situation with that of the EU-15 Member States. It is carried out for the entire period 1995-2012 as well as for the shorter sub-periods: 1995-2003 and 2004-2012.*

*The research provides an empirical picture of convergence. It is found that the ‘catching-up’ process took place in the whole group of 27 countries as well as in two narrower sub-groups: the CEEC and the EU-15. Beta-convergence process is observed in all periods in question, but the convergence was more intense during the second period compared to the first. The analysis of cross-sectional dispersion of food share revealed that diversity in the EU-27 decreases over the entire period 1995-2012 and over both of the sub-periods. Similar results were obtained for the CEEC, while in the EU-15 beta convergence was not a sufficient condition for sigma convergence.*

**Key words:** *convergence, food shares expenditures, European Union, integration, indicators.*

**JEL Classification: I31, D12, C23**

### **1. Introduction**

Convergence between economies (i.e. countries or regions) is defined as the tendency for the levels of a chosen indicator to equalise over time, which will happen only if a catching-up process takes place. This phenomenon has been

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particularly frequently analyzed in the context of the European Union integration process.

The European Union has long viewed economic and institutional convergence as important goals. The Treaty of Rome in 1957 establishing the European Community defined economic and social cohesion as one of the main operational priorities of the Union. Since decades European integration has continued to widen and deepen. Policy initiatives like the Lisbon Agenda and the European Employment Strategy were launched to strengthen the cohesion within the European Union (EU).

The accession of ten Central and Eastern European countries (CEEC), Cyprus, and Malta in 2004 and 2007 marks a significant event in the enlargement process of the EU. Following the transition from planned to market economy during the early 1990s, the CEEC countries were faced with the task of catching up with the economies of Western Europe. In fact, the level of development of these two groups of countries was different at the beginning of this century. The countries which have joined the EU in the past decade have undergone changes in various aspects of economic and social life. Thus, there is a need to investigate whether they still differ from pre-2004 Member States.

The issue of convergence in the EU is usually viewed from a macroeconomic perspective, using indicators such as GDP per capita, labour productivity and inflation rate (see, e. g., Próchniak, Rapacki, 2009; Miron, Tatomir, Alexe, 2013; Holmes, 2002). Relatively little attention has been paid to the comparison of various aspects of living conditions across countries including households' consumption expenditure structures. Studying of these structures may provide insights into the standard of living of average households in a given country. Particularly noteworthy is the share of food in total household consumption expenditure. According to Engel, such an indicator can be used in the assessment of welfare across households, with lower food shares indicating higher welfare (Deaton, Paxson, 1998). Thus, the share of total household consumption expenditure devoted to food (the food share) has attractive features as an inverse measure of affluence.

The idea of employing the food share as an inverse measure of welfare has been used by a number of researchers (see, e. g., Orshansky, 1969; Ravallion, 2001). It has the appeal of simplicity in terms of its conceptual basis (Meenakshi, Ray, 2002). In particular, this approach has been applied to the estimation of equivalence scales and poverty lines (Rao, 1981; Deaton, 1997). Such analyses are essentially based on the household budget surveys (HBS).

Combining data from HBS, national accounts and the harmonized index of consumer prices the Statistical Office of the European Communities – Eurostat publishes data on the average expenditure shares in individual Member States. Such data is used in our study as a proxy for the welfare of average households in a given country. This approach has several advantages. As the food share is

dimensionless, it can be compared across time and countries. In addition, quite reliable information on the food share is available in most countries within a reasonable timeframe. Moreover, the link between the food share and income as enshrined in Engel's law is well established and widely-accepted empirical regularity in economics (Clements, Chen, 2010).

The subject of the analysis is to discover potential convergence among EU countries in the food share. This issue is important because one of the major attractions of a membership in the EU for the acceding countries has always been the perspective of catching up with EU living standards (Bongardt, Torres, 2013). For testing the occurrence of this phenomenon concepts of  $\beta$ - and  $\sigma$ -convergences are applied. The data used in this analysis come from the Eurostat's database. Empirical research should shed some light on the actual patterns of households' well-being in the EU.

## 2. Methodology

Many economists try to explain the crucial issue of whether different countries or regions become similar over time. There are many approaches to testing the occurrence of this phenomenon. The most common concepts of convergence are  $\sigma$ -convergence and  $\beta$ -convergence. The former concerns cross-sectional dispersion. Sigma-convergence occurs if the dispersion – measured by standard deviation or coefficient of variation – declines over time (Baumol, 1986). The concept of  $\beta$ -convergence originated in the economic growth literature. Its application in economics is verification of the hypothesis that poorer economies will tend to grow faster than richer economies. It has been an active area of research in the last years due to the development of the economic growth theory literature. Most of convergence models have their roots in the neoclassical Solovian growth model (Sardavar 2011).

The  $\beta$  convergence can be considered as absolute (unconditional) or relative (conditional). The former supposes an equalization of the given indicator to the same single value in the long term, while the latter one implies that each country converges towards its own stationary state, which can be different from that of the others (Deungoue, 2008).

The most common methodology to analyze  $\beta$ -convergence was developed by Barro (1991) and Barro and Sala-i-Martin (1992). They consider that there is a convergence, when the growth rate is negatively correlated with the initial level of the variable. Barro and Sala-i-Martin employed OLS estimation in cross section analysis, meanwhile Islam (1995) proposed extension of their model to panel data econometrics.

In this paper we adopt this classical approach to unconditional  $\beta$ -convergence and apply it to panel data. We consider the following regression:

$$\Delta lny_{it} = \alpha + \beta lny_{i,t-1} + u_i + \varepsilon_{it} \quad (1)$$

where

- $y_{it}$  – level of indicator in  $i$ -th country in  $t$ -th year,  $i=1, 2, \dots, N, t=1, 2, \dots, T$ ,
- $\Delta lny_{it} = lny_{it} - lny_{i,t-1}$  – growth rate of indicator,
- $u_i$  – unobserved country-specific effect,  $i=1, 2, \dots, N$ ,
- $\varepsilon_{it}$  – error term,  $i=1, 2, \dots, N, t=1, 2, \dots, T$ ,
- $u_i \sim IID(0, \sigma_u^2)$  and  $\varepsilon_{it} \sim IID(0, \sigma_\varepsilon^2)$  are independent of each other and among themselves,
- $\alpha$  and  $\beta$  are parameters to be estimated.

In our research  $y_{it}$  represents the food share in  $i$ -th country in  $t$ -th year. If the parameter  $\beta$  is statistically significant and negative one can conclude in favour of unconditional beta-convergence. Thus, the growth rates of the food share depend on the initial consumption levels only, and they are inversely correlated. Manipulating (1) yields the dynamic panel data model to be estimated:

$$lny_{it} = \alpha + (1 + \beta)lny_{i,t-1} + u_i + \varepsilon_{it} \quad (2)$$

The slope parameter  $(1+\beta)$  in model (2) is estimated as one parameter and obtaining the estimate of  $\beta$  requires simply subtracting 1 from the estimate of  $1+\beta$ . The dynamic structure of the model (2) makes the Ordinary Least Squares, the Fixed Effects and the Random Effects estimators biased and inconsistent, since the lagged level of dependent variable ( $y$ ) is correlated with the error term ( $\varepsilon$ ) (Baltagi, 2005). In order to cope with the endogeneity problem the estimator based on the General Method of Moments (GMM) is employed. In the field of applied economics the method of Arellano and Bond (1991), and its modification proposed by Arellano and Bover (1995), and Blundell and Bond (1998) is used very frequently for dynamic panel estimation.

In the paper the so-called system GMM estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998) is used. This approach relies on the use of the lagged first-differences as instruments for equations in levels, in addition to the usual lagged levels as instruments for equations in first-differences. The system GMM estimator exhibits good statistical properties which are confirmed even in smaller samples (Blundell, Bond, 1998; Hayakawa, 2007). To obtain the system GMM dynamic panel estimates of the models (2) STATA econometric software is used.

The consistency of the GMM estimator relies on the assumptions that there is no first-order serial autocorrelation in the errors of the level equation (2), and that the instruments are truly exogenous. In the paper the test for autocorrelation and the Sargan test for over-identifying restrictions as suggested by Arellano and Bond (1991) are conducted. The former verifies the hypothesis that there is no second-order serial correlation in the first differenced residuals, which in turn implies that the errors from the levels equations are serially uncorrelated. The latter is the standard test for validity of the instrument matrix. The null hypothesis of the

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Sargan test states that the instruments are uncorrelated with the error terms. Failure to reject both null hypotheses gives support to the model.

Beta and sigma convergence are complementary, but not excludable concepts. It should be mentioned that  $\beta$ -convergence is a necessary (but not sufficient) condition for  $\sigma$ -convergence to take place (Sala-i-Martin, 1996). The reason why these two concepts do not always show up together is that they capture two different aspects of convergence, so both of them should be tracked concurrently. The empirical studies usually apply to both approaches in order to provide more complete information for the convergence result.

Beta and sigma convergence tests are based on regression analysis framework. In both cases it should be verified whether the appropriate regression coefficient is negative and statistically significantly different from zero. In the former approach it refers to the slope parameter in the model (1) and in the latter – to the slope parameter in the following model:

$$v_t = \alpha + \beta t + \varepsilon_t \quad (3)$$

where:

$v_t$  – coefficient of variation<sup>1</sup> of  $y$  in  $t$ -th year,  $t=1, 2, \dots, T$ .

$\alpha$  and  $\beta$  are parameters to be estimated,

$\varepsilon_t$  – error term.

Statistically significant and negative the slope parameter in model (3) denotes a narrowing of differences between units over time. Thus, in our case: if the coefficient of variation of the food share over the time diminishes the presence of sigma convergence can be confirmed.

It should be noted, that sometimes in the sigma convergence analysis the standard deviation instead of the coefficient of variation is used. Such an approach, however, should not be used to compare the variability of data that are different in range of values. In our research we compare a dispersion between different group of countries in different periods, thus we apply the coefficient of variation.

### 3. Data

The data are obtained from the Web site of Eurostat. The Council regulation for the European system of accounts provides the underlying basis for the collection of data on household consumption expenditure. Final consumption expenditure of households refers to the expenditure incurred on the domestic territory on goods and services used for the direct satisfaction of individual needs. Total household consumption expenditures were broken down into twelve categories by a system known as Classification of Individual Consumption by

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<sup>1</sup> The coefficient of variation is a measure of relative variation expressed as the ratio of the standard deviation to the mean.

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Purpose (COICOP). COICOP categories include the following 12 consumption areas: 1) food and non-alcoholic beverages, 2) alcoholic beverages, tobacco and narcotics, 3) clothing and footwear, 4) housing, water, electricity, gas and other fuels, 5) furnishings, household equipment and routine household maintenance, 6) health, 7) transport, 8) communications, 9) recreation and culture, 10) education, 11) restaurants and hotels, 12) miscellaneous goods and services.

In the analysis we use the percentage of total spending that households in each Member States dedicate to food and non-alcoholic beverages. In short we call this ratio 'the food share'. For the analysis of the convergence, the panel data analysis is used. It can be said that panel data is characterized by a double dimension, cross-section and temporal, which offers a significant advantage next to other types of data (Jaba at all. 2013). The data for the member countries used in the study covers the period from 1995 to 2012.

In this study we compare the 27 countries that form the European Union in 2012 – in short we call them EU-27. The analysis includes the following Member States: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, the United Kingdom, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Bulgaria and Romania. The first 15 of the above countries formed the EU in 1995 (shortly named EU-15), the subsequent 12 countries from Eastern and Central Europe joined in 2004 and in 2007. The data for 2012 for Bulgaria, Greece, Lithuania and Romania are not available. In such cases missing values are omitted in beta-convergence analysis. In sigma-convergence, where coefficient of variation for all countries in each year should be computed, the missing values are replaced by the average values for these countries for 2009-2011 period. Such method is used since the food shares for these countries were not changing in systematic manner in years 2009-2011

Our analysis focuses on the whole EU-27 group. A particular attention is paid, however, to post-communist countries (CEEC) and a comparison of their changes in food shares with those in the EU-15 Member States. The analysis is carried out for the entire period 1995–2012 as well as for the shorter sub-periods: 1995-2003 and 2004-2012.

#### **4. Results**

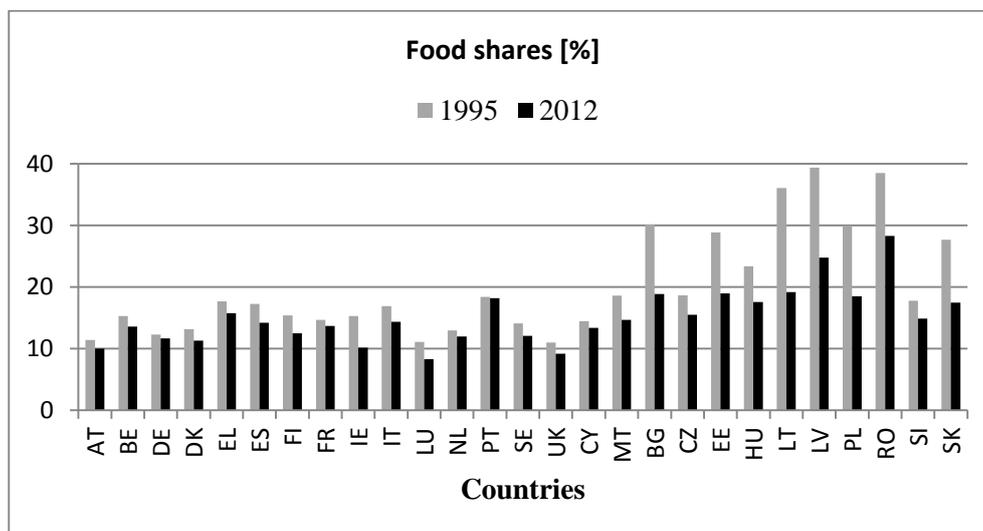
Food and non-alcoholic beverages were amongst the most important consumption items for the majority of EU households. Other significant components of expenditure were: housing, water, electricity, gas, other fuels and transport. Together, above items accounted for about 50% of total expenditures.

There were great disparities in patterns of households' expenditures across countries and time. For example, in 1995 the average households in Latvia, Lithuania and Romania devoted near 40% of total consumption to food, while in

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the most affluent countries, such as Luxembourg and the United Kingdom, the average food shares did not exceed 10% in 2012. This is illustrated in figure 1.

**Figure 1. Cross-country comparison of expenditures on food consumption in 1995 and 2012 (% of total expenditures)**



Source: Own elaboration based on Eurostat data

**Country codes:** BE: Belgium; BG: Bulgaria; CZ: Czech Republic; DK: Denmark; DE: Germany; EE: Estonia; IE: Ireland; EL: Greece; ES: Spain; FR: France; IT: Italy; CY: Cyprus; LV: Latvia; LT: Lithuania; LU: Luxembourg; HU: Hungary; MT: Malta; NL: the Netherlands; AT: Austria; PL: Poland; PT: Portugal; RO: Romania; SI: Slovenia; SK: Slovakia; FI: Finland; SE: Sweden; UK: the United Kingdom.

Figure 1 highlights a few salient facts. It should be noted that the countries of Central and Eastern Europe generally spent a higher proportion on food and non-alcoholic beverages than the 'old' EU Member States. During the period 1995-2012 the decrease in the share of food expenditures could be observed in all EU countries. Among EU-15 countries, these changes are minor, while in the CEEC – more dynamic. In none of the EU-15 countries food shares exceeded 20% (as shown on the left side of the figure 1). Turning to an analysis of country-specific data, one can observe that the southern countries such as Portugal, Spain, Greece and Italy exhibited higher food shares than other EU-15 countries.

Compared to 1995 there was a particularly noticeable reduction of expenditures on food and non-alcoholic drinks in countries of Central and Eastern Europe in 2012 (as shown on the right side of the figure 1). The biggest changes in this area took place in Latvia and Lithuania. The households in these countries tended to dedicate less and less of their budget to food and non-alcoholic beverages.

The analysis of figure 1 gives rise to the suspicion that there is beta-convergence of food shares. In order to investigate this phenomenon estimation of the model (2) parameters is carried out. The results of absolute  $\beta$ -convergence are presented in table 1. The regression equation (2) is estimated over the whole period 1995–2012 and over the two sub-periods: the first period extends from 1995 to 2003 and the second – from 2004 to 2012.

**Table 1. Results of estimation of absolute  $\beta$ -convergence models**

Parameters	EU-27	CEEC	EU-15
<b>1995-2012</b>			
alpha	0.368 (0.011)***	0.384 (0.135)***	0.232 (0.032)***
beta	-0.139 (0.004)***	-0.132 (0.044)***	-0.095 (0.013)***
<b>1995-2003</b>			
alpha	0.383 (0.011)***	0.153 (0.057)***	0.147 (0.039)***
beta	-0.143 (0.005)***	-0.057 (0.018)***	-0.064 (0.015)***
<b>2004-2012</b>			
alpha	0.675 (0.039)***	0.759 (0.039)***	0.241 (0.092)***
beta	-0.255 (0.015)***	-0.264 (0.011)***	-0.098 (0.037)***

Source: own calculations. Standard errors in parentheses. \*\*\* indicates statistical significance at 0.01.

The table 1 shows the two-step system GMM estimation results for equation (2). To test the validity of the models we undertake two tests, namely the Sargan test, which examines the over-identification restrictions, and the Arrellano and Bond test for autocorrelation, which examines the null hypothesis of no autocorrelation. The results of diagnostic tests suggest that all the regression equations are well specified. There is no evidence of serial correlation and we fail to reject the validity of the over-identifying restrictions according to the Sargan test<sup>2</sup>.

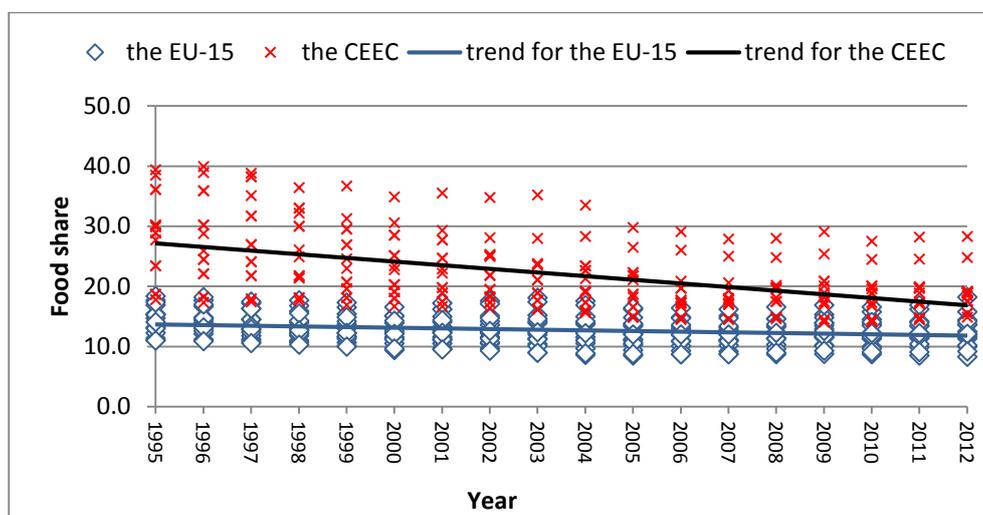
The results show clearly that all estimates of beta parameters in model (2) are negative and significant at the 0.01 level. This suggests significant beta-convergence in food shares among the EU countries during all considered periods.

<sup>2</sup> Detailed results are available on request.

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Inverse relationship between the starting level of the food shares and the rate of their decline is observed. It therefore appears that the EU countries are on track to achieve a ‘catching-up’ effect. The existence of beta-convergence throughout the whole period 1995-2012 is visualised in figure 2.

**Figure 2. Beta-convergence of the food share**



Source: Own elaboration based on Eurostat data

Interestingly, unlike in the classical convergence charts for such indicators as GDP per capita, drop rate instead of growth rate is observed in figure 2. It can be seen that the less affluent CEE countries are trying to reach the rich EU-15 countries. In order to achieve ‘catching-up’ effect, decrease in the food share in the former group of countries is greater than in the latter.

The results presented in table 1 indicate that in the EU-15 and in the CEEC convergence is also discovered. This means that within these both groups of countries ‘catching-up’ process also took place. Due to the fact, that beta parameter expresses the speed of convergence<sup>3</sup>, some conclusion can be drawn. First, during the entire period in question the convergence inside the EU-15 group was not rapid enough to level up the obtained convergence rate inside the EU-27 group as a whole, which is well visible in the difference between the convergence rates found

<sup>3</sup> The higher the absolute value of the beta parameter in model (1), the higher the speed of convergence (Sala-i-Martin, 2003).

for these two group of countries. Second, the speed of convergence is not constant in the period in question. In a group of the CEEC it significantly increased after the EU enlargement in 2004. The accession to the EU turned out to be for most of the countries in this group a determinant of changes in households' behaviour. It can be also noticed, that the convergence among the EU-27 group was based mainly on the convergence of CEE countries towards EU-15.

The results obtained so far are encouraging for the further analysis. Beta convergence is a necessary, though not a sufficient condition for sigma convergence. Thus, in the next step of the research,  $\sigma$ -convergence is tested. The results of estimation of model (3) are given in Table 2. The negative and significant slope coefficient associated with the linear trend term in the model verifies the existence of sigma convergence over the periods examined.

**Table 2. Results of estimation of  $\sigma$ -convergence models**

Parameters	EU-27	CEEC	EU-15
<b>1995-2012</b>			
Intercept	44.908 (0.516)***	27.930 (0.593)***	16.925 (0.680)***
Slope	-0.915 (0.047)***	-0.359 (0.548)***	0.202 (0.063)***
R <sup>2</sup>	0.958	0.728	0.392
<b>1995-2003</b>			
Intercept	45.057 (0.7)***	27.417 (0.993)***	15.411 (0.869)***
Slope	-0.919 (0.124)***	-0.267 (0.177)	0.499 (0.154)**
R <sup>2</sup>	0.806	0.246	0.599
<b>2004-2012</b>			
Intercept	35.645 (0.819)***	25.585 (0.777)***	20.436 (0.805)***
Slope	-0.736 (0.146)***	-0.524 (0.138)***	-0.132 (0.143)
R <sup>2</sup>	0.785	0.673	0.108

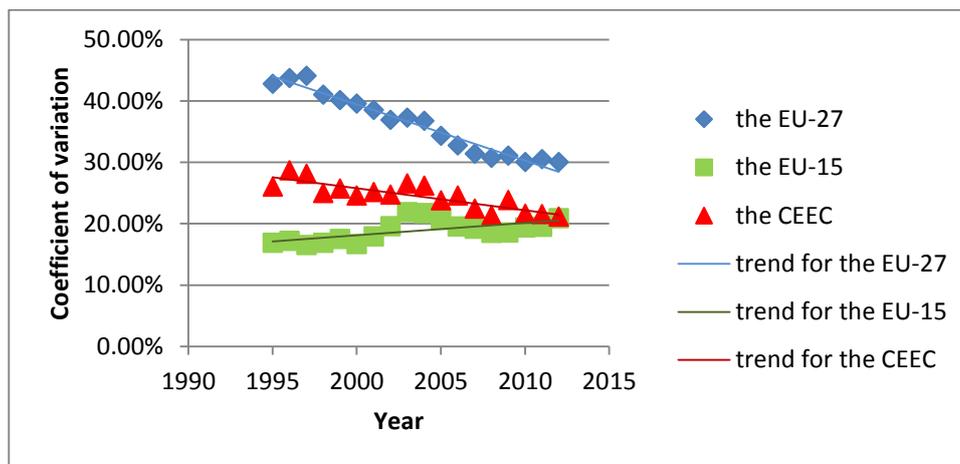
Source: own calculations. Standard errors in parentheses. \* indicates statistical significance at 0.1, \*\* at 0.05, and \*\*\* at 0.01.

The results presented in Table 2 clearly indicate that the diversity of food shares in the CEEC and in the EU-27 decreases over the entire period 1995–2012. It can be concluded that an annual decline in the coefficient of variation is about 0.4% in the former group of countries and 0.9% in the latter. In both cases, this decrease is statistically significant on the level 0.01, indicating  $\sigma$ -convergence. The opposite conclusion applies to the EU-15 countries – the slope coefficient in model (3) estimated on the basis of data for pre-2004 Member States proved to be positive and statistically significant at the level of 0.1. It can therefore be observed a increase in differentiation of food shares among the EU-15 countries – thus, divergence takes place.

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The results for changes in the dispersion of food shares in the EU-27 countries are shown in Figure 3.

**Figure 3. Changes in the dispersion of food shares in the EU countries**



Source: Author's elaboration based upon Eurostat data

As shown in the figure 3, there is a decreasing trend in dispersion in the EU-27 group in the entire period 1995-2012. It means that the countries are becoming increasingly similar to each other (in terms of the food share) and one can confirm the sigma-convergence. The trend of diminishing dispersion in EU-27 has recently been slightly disturbed by the economic crisis. Since 2009, the food shares have risen in many countries, especially in Germany, Greece, Spain, Estonia, Latvia, the Netherlands, while in countries such as Poland, Malta, Austria they have decreased, resulting in the increase of the coefficient of variation.

The sub-period results presented in table (2) reveal interesting findings. During 1995-2003 the drop in the dispersion in the CEEC proved to be not significant even at the level of 0.1. However, after 2004 the diversity of food share in the group of post-communist countries significantly decreased. Quite different results are obtained for the EU-15. In 1995-2003 an increase of dispersion was observed, while in the 2004-2012, there was no constant trend (neither increasing nor decreasing). This situation is illustrated in the figure 3.

Summing up the presented results, it could be concluded that:

- Considering the EU-27, the food share exhibits both beta and sigma convergence over the whole period 1995-2012 and over both of the sub-periods.
- Taking into account the CEEC, one can state that beta convergence took place over each considered periods and sigma convergence occurred in the entire period and in the period following the EU enlargement. Furthermore, during the post accession period the convergence process accelerated.
- In the EU-15 beta convergence proved to be not a sufficient condition for sigma convergence. Moreover, the results of estimation of linear trend model point to divergence in the first period 1995-2003 and in the whole period 1995-2012. This means that within the 'old' EU there was an increasing dispersion in the field of the food share.

## 5. Conclusions

This study investigates the possibility of convergence of household food shares expenditures in the EU using conventional concepts of  $\beta$ - and  $\sigma$ -convergence. Both concepts use statistical techniques to test the convergence hypothesis empirically. For the analysis of the convergence, the panel data analysis is used. The data in this study comes from the Eurostat database and cover the years 1995- 2012. For each the EU country we use the annual data from the period in question.

This research finds large differences in the share of total household consumption expenditure devoted to food and non-alcoholic beverages across the EU. The percentage of total spending that households dedicated to this item was generally greater in post-communist countries than in the 'old' EU Member States. This corroborates Engel's research. The food shares are generally lower in the more affluent EU-15 countries than in the CEEC. The major feature noticeable during the period 1995-2012 is the decrease in the food shares in all EU countries. In most the EU-15 countries this item changed only gradually in the period in question, while in the CEEC it declined significantly, which gives rise to the suspicion that there is the convergence of food shares.

Convergence means a process of gradual reduction in differences among observed countries in a certain time period. The paper employs two widely used analytical approaches which are well established in economic theory and applied econometric – beta and sigma convergence. In the context of this analysis, beta-convergence occurs when food shares in the less affluent countries diminish faster than in the rich ones. Sigma-convergence refers to a reduction in the dispersion of levels of food shares across the EU-countries. Both concepts measure convergence in a different manner and they yield different information.

We performed the analysis over two groups of countries and time periods. First, we considered post-communist countries and then, the countries which joined the EU before its 2004 enlargement. The application of panel data analysis

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on the food expenditures share in total consumption finished in derivation of appropriated regression coefficients coherent with economic theory. The regression models were estimated over the two sub-periods: the first period extends from 1995 to 2003 and the second from 2004 to 2012. We also estimated the convergence models over the whole period 1995-2012.

The research provides an empirical picture of convergence. The ‘catching-up’ process in the whole group of 27 countries as well as in the two narrower sub-groups: the CEEC and the EU-15 was observed. Beta-convergence process took place in all periods in question, but it was found that the convergence was more intense during the second period compared to the first. Moreover, the beta convergence in the EU-27 group was based mainly on the convergence of CEE countries towards EU-15.

The analysis of cross-sectional dispersion of food share revealed that the diversity in the EU-27 decreases over the entire period 1995-2012 and over both of the sub-periods. Similar results were obtained for CEEC, while in the EU-15 beta convergence was not sufficient condition for sigma convergence. Moreover, sigma divergence in the first period 1995-2003 and in the whole period 1995-2012 was detected. This reflects an increase in dispersion of the food share among ‘old’ EU Member States.

Our results provide important insights on the convergence process in the EU. Typical studies on convergence in the EU take usually into account such indicators as GDP per capita, labour productivity and inflation rate. In this paper we analyse the average portion of household budgets allocated to food. We adopt approach that it can be used as a proxy variable that reflects the standard of living of average households in a given country. Of course, it should be acknowledged that this indicator is not perfect, but it can be applied in the absence of a simple, universally accepted method of quantifying household wealth.

The EU-enlargement in 2004 and in 2007 can be characterised as an attempt to integrate the group of countries very heterogeneous relatively to the current EU-members. During the association and acceding process, the countries converged with high dynamics in many fields. The same results can be seen in food shares, which is analyzed in this paper. It is important because one of the main objectives of the European Union, as recognized in the EU treaty, is economic and social cohesion through the reduction of disparities among Member States.

This paper has aimed to provide a first, broad-brush picture of the changes of food shares in the EU. The future directions of the research should include a microeconomic analysis of this phenomenon. Such an analysis would enable a deeper insight into the situation of households in Member States of the European Union.

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