yönetim ve ekonomi araştırmaları dergisi
journal of management and economics research

Cilt/Volume: 23 Sayı/Issue: 2 Haziran/June 2025 ss. /pp. 242-258
B. Taş, K. Önder, http://dx.doi.org/10.11611/yead.1357257

HOUSEHOLD CONSUMPTION CONVERGENCE: EXAMPLE OF IBSS-II[1]

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ABSTRACT

Consumption level is the most important indicator representing the welfare of societies, respectively. Any inequality in the consumption level directly affects the welfare of society. The study aims to examine the consumption convergence of IBSS-II (26 sub-regions) and to create an econometric model for this. In the study, the household consumption expenditure panel data set of IBSS-II regions for the years 2003-2019 published by the Turkish Statistical Institute (TUIK) was used. Nine consumption items with the highest share were discussed. As empirical results; it is seen that the coefficients of variation of the consumption items vary between 0.12 and 0.38. The conclusion drawn was that there is interregional convergence only in such items; as alcoholic beverages, cigarettes and tobacco products (0.18), housing and rental expenditures (0.12), and furniture, household appliances, and home care services (0.12). Additionally, the coefficient of variation values for transportation and education services were 0.31 and 0.38, respectively, indicating regional divergence in these consumption items.

Keywords: *Household Consumption Expenditure, Convergence, Coefficient of Variation Method.*

Jel Codes: *D10, D12, O47.*

1. INTRODUCTION

Welfare can be envisaged as the final goal of economic transactions in accordance with economic theory which argues that the level of welfare is markedly hinged on consumption rather than income (Deaton, 1992). As such, the level of per capita consumption is considered as one of the most significant component of an economy since it has the highest share in income both at the individual level and on the basis of the entire economy plus it is highly suitable for measurement. In this respect, it is of interest to examine consumption both at micro and macro level. The most basic attempt of shis study is to shed

[1] This study was presented at the Eighth International Conference on Economics (IceTea2022) organized by Turkish Economic Association held at Cappadocia University, Nevşehir, Turkey on 1-4 September 2022, and the paper is titled "Hanehalkı Tüketim Kalıpları: IBSS-II Bölgeleri Örneği".

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Makale Geçmişi/Article History

Başvuru Tarihi / Date of Application : 8 Eylül / September 2023
Düzeltme Tarihi / Revision Date : 20 Şubat / February 2025
Kabul Tarihi / Acceptance Date : 20 Mart / March 2025

Araştırma Makalesi/Research Article

light on consumption convergence at micro level. Therefore, in this study, interregional consumption patterns in Turkey are analyzed from a convergence perspective.

According to Neoclassical growth theory, per capita income level will converge to its long term value even if it encounters shocks unless the parameters driving this long-term value change. The theory proposes income convergence by assuming homogeneous intertemporal preference, identical production functions, and the law of diminishing returns to capital. The law of diminishing returns to capital defines that the marginal productivity of capital will increase at decreasing rates while other inputs are constant. Thusly, the farther (closer) an economy's income is to the long-run equilibrium value, the higher (slower) the growth rate of income will be. Then, as a natural consequence of the law of diminishing returns to capital, the per capita income of a group of economies (countries) that are similar in terms of "fundamental" variables will converge to each other in the long run. This is because groups of countries that are similar in terms of key variables (at steady state) will have higher growth rates of poorer countries that are further away. This is because the marginal return on capital is higher in these countries. At the same time, the growth rate is lower in rich countries that are closer to the steady state. Because the marginal return on capital is lower in the rich country. Therefore, in the long run, these two country groups will meet at the equilibrium value.

Considering Solow's framework, the income convergence equation in the transition period relies on the initial level of output, the savings rate, and the augmented population growth rate by the rate of technological progress and depreciation. In general aspect, the concept of convergence appears in two basic versions: unconditional and conditional convergence, which are propounded by Barro and Sala-I-Martin (1992). Unconditional convergence defines that the convergence of the income of an economy or a group of economies to the steady state level depends only on the initial level of income. In other words, the convergence process takes place unconditionally. On the other hand, conditional convergence implies that countries will converge if they have similar parameters that determine their long-term income balances. Therefore, it is emphasized that the convergence rates of these countries are affected not only by the initial level of income, but also by some other basic determinant variables such as the saving rate and population growth rate. Conditional convergence also includes related control variables such as education, investment, trade and openness.

Although the term convergence is mostly attributed to income (output) (Baumol, 1986; Abramowitz, 1986; Barro and Sala-I-Martin, 1992; Mankiw, Romer and Weil, 1992), studies investigating consumption convergence have also been gaining momentum in recent years (Kónya and Ohashi, 2007; Michail, 2020; Gil, Gracia, and Pérez y Pérez, 1995; Hermann and Röder, 1995; Elsner and Hartmann, 1998). Especially with the suggestion of the concept of globalization by Levitt (1983), the examination of consumption convergence has become popular among empirical studies. Levitt (1983) argues that globalization causes consumption patterns among regions to become increasingly

similar. Likewise, Smith et al. (1999) in their study on 15 European Union member countries, they claim that consumption patterns become more similar and convergent due to the convergence of values and behaviors that are resulted by developing technology, standardized forms of education, awareness of being healthy and the desire to achieve a higher standard of living. On the other hand, Dholakia and Talukdar (2004) reveals that global integration and exposure to US values lead to homogenization in the consumption levels of emerging markets in their study of data from 22 emerging markets and the USA in order to investigate the social impact on consumption trends in emerging markets. In constrast, De Mooij and Hofstede (2002) argue against the idea of consumption convergence in their study. They allege that although technological convergences happen and the gap in income distribution decreases, this situation will not lead to a convergence in consumer behavior. According to them, convergence in consumer behavior will be precluded because of cultural differences. They present this argument by using correlation and stepwise regression methods, making use of national wealth (GDP per capita) and Hofstede's cultural dimensions in their study to investigate the possible impact of culture on consumption.

One of the aims of this study is to examine whether there is a convergence between the regions of Turkey in terms of consumption items. In addition to the consumption convergence studies carried out at the macro level, an interregional consumption convergence study will make a significant contribution to the concept of convergence. Because it is important for policy makers and companies to determine the similarities and differences in the consumption patterns of regions that share same characteristics (culture, education level, technology, etc.) within the same country. In particular, a convergent tendency has significant implications for interregional or international trade and national transport systems (Wan, 2005). In addition, the term of consumption convergence basically reflects the observed tendency of inequality in the quality of life standards among geographical regions (Wan, 2005). For this reason, the significance of the convergence of consumption is emphasized again, as any inequality in the distribution of consumption expenditures will directly affect the welfare level of the society negatively. To the best of our knowledge, only Wan (2005) investigates whether there is convergence in food consumption in Rural China using micro-level household survey data. In this study, following the framework of Wan (2005), we have tried to determine which of the consumption items in Turkey converged and which diverged. Therefore, we have utilized coefficient of variation method widely used in the literature as an empirical approach (De Mooij, 2000, 2003; Wan, 2005; Nowak and Kochkova, 2011) on the household consumption expenditure data set of the IBSS-II regions between 2003-2019, which is published by the Turkish Statistical Institute (TUIK). It is believed that the study will make an important contribution to the literature, since this is the first time that such a study has been carried out for Turkey.

The general structure of the study is organized as follows: In the first chapter, a general introduction to the subject is presented. The second part contains a broad summary of the literature on consumption convergence. In the third chapter, information is given about the empirical approach applied in the study and the data set used. In the fourth chapter, which is the conclusion, inferences are made about the empirical results obtained and some suggestions for future research are presented.

2. LITERATURE REVIEW

Taking the previous literature into consideration, the consumption convergence has been analyzed within the frameworks which have been developed within the economic growth literature (Barro and Sala-i-Martin, 1992; Gil et al. ,1995). The neoclassical economic models suggest that the per capita income of the states will converge to their own steady state in the long run. This situation especially states that the lower-income countries which are far from their long run equilibrium value will grow more rapidly than the high-income countries which are comparatively nearer to their long run equilibrium value. This assumption has been made as based on the law of diminishing returns of capital. The law of diminishing returns of capital claims that the marginal utility of the capital will increase at a diminishing rate when other inputs are steady. As a matter of fact, Baumol (1986) tested the idea of income convergence empirically in his study and claimed according to his findings that the initial production rate was so high in the year of 1870 but this situation cannot not be sustained in the following century and a reverse situation will be experienced in production, that is, the growth will be slow. Besides, it is indicated in Baumol's study (1986) that a convergence trend will be experienced in the production per capita of the countries which are late to the economic welfare. This process has been defined as the catch-up hypothesis in Abramowitz's (1986) study. According to the "social capacity" theory of Abramowitz (1986), a convergence happens among the countries whose productivity rate are different in time if the backward countries have the capacity to grasp and apply the advanced technologies which are invented in the pioneer countries.

Besides the income convergence, the concept of convergence itself also has a wide study area in the literature. For example, the topics like carbon dioxide emission (Aldy, 2006; Berk et al., 2022), electric and energy usage (Mohammadi and Ram 2012; Meng et al., 2013), transportation (Beyzatlar and Yetkiner, 2017), financial development (Kılınç et. al, 2017) have also been analyzed by the hypothesis of convergence. The issue of whether any consumption convergence happened among the countries and regions or not have become the topic of many studies. In their study, Stigler and Becker (1977) claimed that stability of the taste and preferences among countries forms a certain consumption model and introduced the preference convergence hypothesis which is based on the theoretical proofs. They also associated the homogeneity of the consumer behavior with various factors like economic integration (international commerce or openness etc.) and communication technologies. For example, Friedman (1989) has claimed that the information technologies have changed the living styles of both

the developing and the developed countries; therefore, the possibility of occurrence for the preference convergence hypothesis is higher (Michail, 2020). Moreover, it is also observed that the economic integrations cause the convergence in consumption. Kónya and Ohashi (2007) have analyzed the convergence models of the consumption percentage among the OECD countries in total and under eight sub groups. In their study where they have examined the other country clubs like EU and G-7 comparatively, they have used the openness as the indication of economic integration and claimed that the consumption models of the countries which trade more are nearer to the OECD average.

In his study, Blandford (1984) examined the convergence in the food consumption per capita among the OECD countries by the coefficient of variation approach. As a result of the study, it has been found that the high food consumption per capita has a positive impact on the increase of income per capita. Although, Gil et al. (1995) have employed a different method in their study, they have reached similar results with Blandford (1984). In their study, Gil et al (1995) have found that there is a diminishing convergence rate in the consumption structure on the level of products within three periods as from 1970 to 1980, from 1980 to 1990 and 1970 to 1990 among 15 countries which are members of EU, and the consumption rates of the higher income countries are also higher. In the study of Waheeduzzaman (2011), the issue of whether the developing markets catch up the developed markets with respect to the food consumption or not has been examined by taking the eight consumption differentials into consideration and it has been found that the convergence in consumption ratio is slower.

In some empirical studies, the convergence in certain product categories has been discussed. In the study which has been conducted by Smith, Solgaard and Beckmann (1999), the alcohol consumption has been focused on and it is argued that the high living standard and the technological progress which standardized education styles stimulate the monotypic social values, belief and attitudes. In other words, it has been highlighted that the cultural differences will disappear gradually. In the study of Holmes and Anderson (2017), it has been argued that there is a strong but uncertain convergence pattern in the national alcohol consumption models in the world. Another study which investigates whether a convergence is existent in a certain product category is the work of Buongiorno (2009). Buongiorno (2009) has reached the result that the coefficient of variation of the consumption per capita regarding all the forestry products except timber (however its capacity for convergence is high) between the years of 1961 and 2005 is in the trend of diminishing. Moreover, it has been also found in the same study that the consumption per capita regarding all the forestry products except timber has a bigger tendency to grow rapidly in the countries where it is low.

To sum up, there are two main convergence versions claimed by Barro and Sala-i Martin (1992) regarding this issue. These are unconditional and conditional convergence. Barro and Sala-I-Martin (1992) have identified these two concepts as Sigma and Beta convergence. While sigma convergence

states that the cross section standard deviation of the income or consumption levels decrease in time, beta convergence expresses that the low-income or low-consumption regions grow faster than the high-income or high-consumption regions. Wan (2005) adds the third convergence to these two and calls this convergence as the gama convergence. Wan (2005) identifies the gama convergence as the decrease of income or consumption variation coefficient and claims that the beta convergence is both the necessary and the sufficient condition for the gama convergence.

Although the issue of consumption convergence has been home to various studies in both the national and international literature, the issue has not been examined sufficiently on the micro level. Besides, the topic has been evaluated regarding the products generally in the studies regarding the issue. Thus, the starting point of this study is consisted of nine consumption items which have a significant place in the household consumption expenditure. The study has been executed by taking 26 regions into consideration by tracking the convergence situation among the regions according to the study of Wan (2005) and it has been detected whether the diminishing variation coefficient in time, named as gama convergence, is valid for the regions of Turkey or not.

3. DATASET, METHOD AND EMPIRICAL RESULTS

3.1. Data and Descriptive Statistics

The scope of the study consists of 26 regions in the Classification of Statistical Regional Units (NUTS) Level-2 (Table 1). In the study, household consumption expenditure data for the years 2003-2019 published by the Turkish Statistical Institute (TUIK) were used. Household consumption expenditure data has been evaluated under 12 sub-headings (For detailed information, see TUIK, 2019). Among these items, nine consumption items were included in the analysis. These items are: (i) food and non-alcoholic beverages, (ii) alcoholic beverages, cigarettes and tobacco, (iii) clothing and shoes, (iv) housing and rent, (v) furniture, appliances and home care services, (vi) health, (vii) transportation, (viii) entertainment and culture, (ix) education services. According to the 2019 results of the household budget survey; In Turkey, the highest share in consumption expenditures of households is housing and rent expenditures with 24.1%, food and non-alcoholic beverage expenditures take the second place with 20.8%, and transportation expenditures take the third place with 16.5%. In addition to these three consumption items, six consumption items corresponding to 26.44% of households' consumption expenditures were also examined.

Table 1. Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
P1	442	25.577	6.036	15.50	49.30
P2	442	4.506	0.800	2.90	7.59
P3	442	5.955	1.211	3.89	10.60
P4	442	24.551	2.988	16.20	33.80
P5	442	6.603	0.781	4.40	10.30
P6	442	1.952	0.481	0.60	4.10
P7	442	14.199	4.326	2.70	23.34
P8	442	1.691	0.642	0.20	3.90
P9	442	2.385	0.620	0.90	3.90

Note: P1: Food and non-alcoholic beverages, P2: Alcoholic beverages, cigarettes and tobacco, P3: Clothing and shoes, P4: Housing and rent, P5: Furniture, appliances and home care services, P6: Health, P7: Transportation, P8: Education services, P9: Entertainment and culture

Table 1 presents descriptive statistics for consumption items. The standard deviation shows how much the data deviate from the mean. As can be seen, the standard deviation of food and non-alcoholic beverages and transportation items is relatively higher. This shows us that the data of these two items deviate more from the average.

After presenting the descriptive statistics of consumption items, we can examine whether there is convergence behavior in household consumption. The simplest way to explore whether there is a convergence behavior in consumption is to plot the initial consumption level (the consumption level in 2003) against the average growth rate of consumption between the years 2003 and 2019.

Figure 1. Convergence for Consumption of Food and Non-Alcoholic Beverages

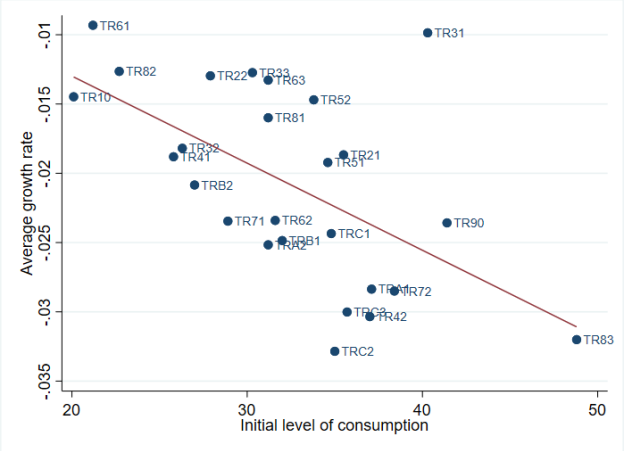

Figure 2. Convergence for Consumption of Alcoholic Beverages, Cigarettes and Tobacco

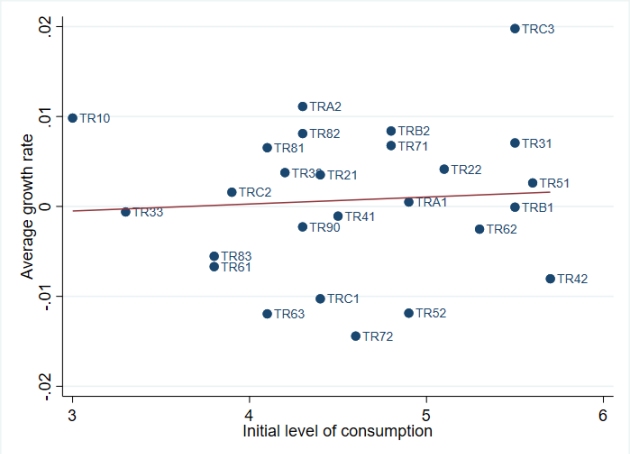

Figure 3. Convergence for Consumption of Clothing and Shoes

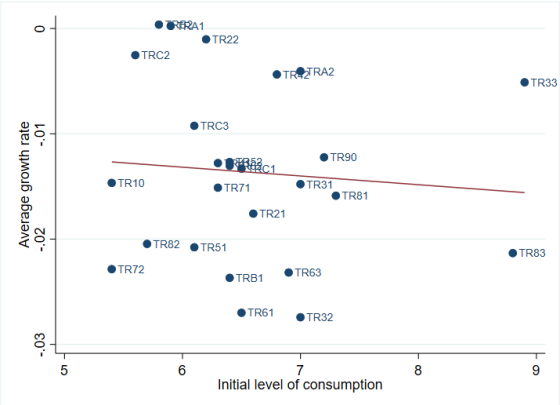

Figure 4. Convergence for Housing and Rental Consumption

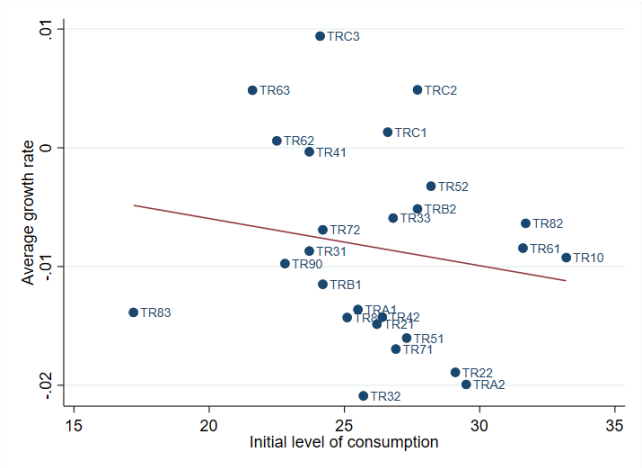

Figure 5. Convergence for Consumption of Furniture, Appliances and Homecare Services

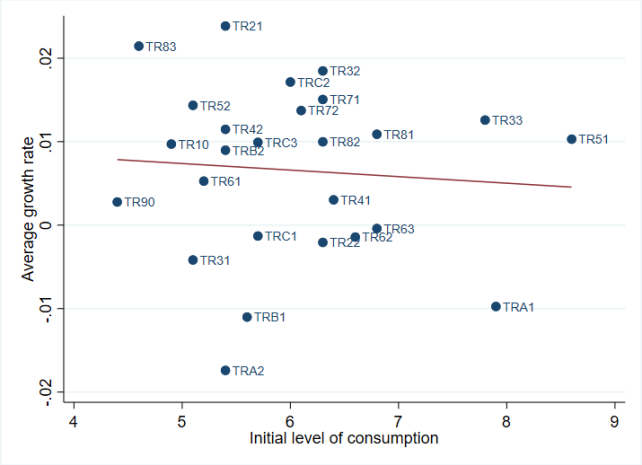

Figure 6. Convergence for Health Consumption

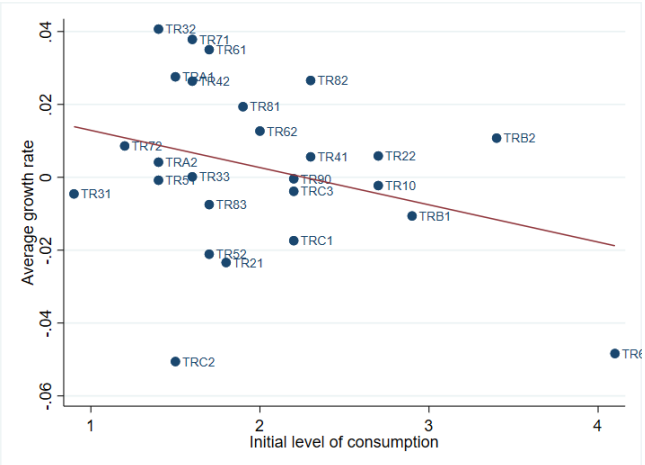

Figure 7. Convergence for Transport Consumption

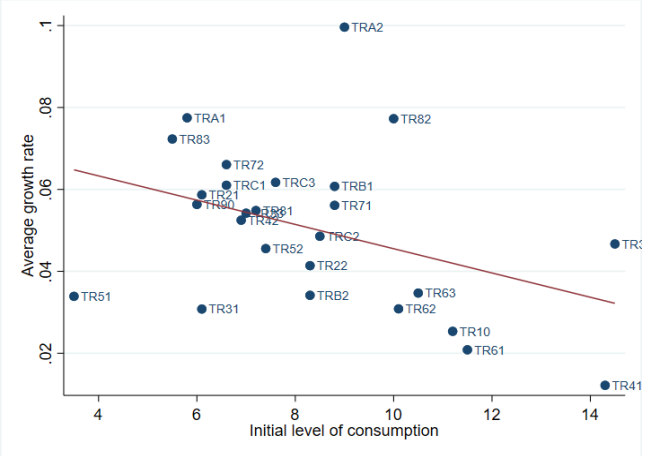

Figure 8. Convergence for Education Services Consumption

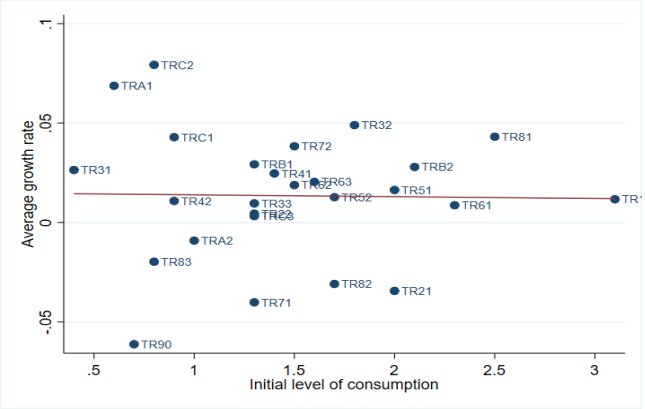

Figure 9. Convergence for Entertainment and Culture Consumption

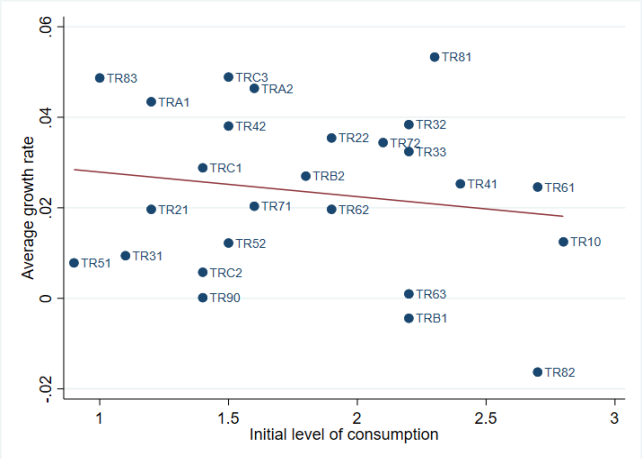

Figure 1 shows the convergence trend for food and non-alcoholic beverages consumption. The negative sloping line in the figure shows that the initial level of consumption and the growth rate are inversely proportional. This indicates that the consumption growth rate of the regions with a low initial level of consumption increases faster.

Whether or not 26 regions have a convergence trend in the consumption of alcoholic beverages, cigarettes and tobacco was examined in Figure 2 and it was determined that the consumption convergence graph of the expenditure item was a straight line with a positive slope. The line has a positive slope; This study shows that there is a positive relationship between the initial level of consumption and the growth rate, and a divergence was observed in the consumption of alcoholic beverages, cigarettes and tobacco between 2003 and 2019. Figure 3 shows the convergence trend of clothing and footwear consumption expenditure item. When the figure is examined; It has been determined that the line has a negative and very low slope. When the negative slope of the line (albeit slightly) is taken as reference, it can be stated that there is a low convergence in the clothing and footwear consumption item. It has been determined that a similar situation to the convergence trend in the consumption of clothing and shoes is also valid in the convergence of Housing and Rent Consumption (Figure 4), Furniture, Household Appliances and Home Care Services Consumption (Figure 5), and Entertainment and Culture Consumption (Figure 6). It has been determined that there is a low convergence trend in spending. When health consumption (Figure 7) and transportation consumption (Figure 8), expenditure items are examined; A line with a negative slope was encountered, but unlike other expenditure items, it was determined that the slope coefficient of these two expenditure items was higher than the others, in other words, there was a divergence.

Finally, we see the graph of consumption expenditures for education services in Figure 9. Although a clear interpretation of the slope of the line cannot be made, it can be said that Figure 9 does not provide evidence of either divergence or convergence for education services consumption expenditures.

3.2. Method and Empirical Results

In this section, we will share information about the method and empirical results of our study. We follow the formula proposed by De Mooij (2000, 2003) to determine whether there is convergence in consumption between regions of Turkey. This formula is as follows:

$$MC/_{year} = \frac{CV_{t_2} - CV_{t_1}}{CV_{t_1}(t_2 - t_1)} x100$$

$MC/_{year}$ represents the annual average percentage of convergence, CV_{t_1} represents the previous year's coefficient of variation, and CV_{t_2} represents the current year's coefficient of variation. The calculation of the coefficient of variation is done as follows:

$$CV = \frac{standart\ deviation\ (\sigma)}{mean\ (\mu)}$$

$MC/_{year}$ can be interpreted as: an increase in the coefficient of variation (CV) during a period from t_1 to t_2 indicates divergence in these variables, while a decrease indicates convergence in these variables. In other words, the expression $MC/_{year}$ reflects annual divergence or convergence rates.

Table 2. Coefficients of Variation of the Consumption Items by Years (CV)

Year	P1	P2	P3	P4	P5	P6	P7	P8	P9
2003	0.20	0.16	0.13	0.13	0.17	0.36	0.31	0.43	0.31
2004	0.21	0.16	0.12	0.11	0.15	0.32	0.32	0.49	0.30
2005	0.22	0.16	0.17	0.12	0.13	0.30	0.31	0.40	0.34
2006	0.24	0.20	0.19	0.13	0.14	0.25	0.31	0.38	0.30
2007	0.23	0.19	0.19	0.15	0.14	0.28	0.24	0.38	0.27
2008	0.22	0.19	0.18	0.15	0.15	0.30	0.20	0.33	0.26
2009	0.19	0.16	0.20	0.15	0.10	0.26	0.16	0.34	0.21
2010	0.18	0.15	0.21	0.14	0.10	0.21	0.16	0.33	0.18
2011	0.17	0.16	0.19	0.12	0.10	0.14	0.13	0.34	0.16
2012	0.16	0.17	0.19	0.09	0.10	0.17	0.14	0.35	0.17
2013	0.17	0.18	0.17	0.08	0.08	0.17	0.14	0.35	0.19
2014	0.16	0.17	0.18	0.08	0.08	0.19	0.14	0.33	0.18
2015	0.18	0.19	0.16	0.08	0.10	0.19	0.15	0.36	0.19
2016	0.18	0.19	0.19	0.09	0.10	0.20	0.15	0.44	0.22
2017	0.18	0.20	0.20	0.09	0.10	0.22	0.16	0.43	0.22
2018	0.18	0.21	0.20	0.09	0.11	0.27	0.15	0.40	0.21
2019	0.17	0.18	0.18	0.10	0.10	0.26	0.14	0.40	0.23
Average CV	0.19	0.18	0.18	0.11	0.11	0.24	0.19	0.38	0.23

Note: P1: Food and non-alcoholic beverages, P2: Alcoholic beverages, cigarettes and tobacco, P3: Clothing and shoes, P4: Housing and rent, P5: Furniture, appliances and home care services, P6: Health, P7: Transportation, P8: Education services, P9: Entertainment and culture

Table 2 presents the annual coefficients of variation for each variable. We accepted the value of 0.20 for the threshold value of the coefficient of variation. Coefficients of variation below this value represent convergence, while values above this value represent divergence. We see that the coefficients of variation of food and non-alcoholic beverages have taken values below the 0.20 threshold with a decreasing trend since 2003. This situation provides evidence for the convergence trend in food and non-alcoholic beverage consumption. Likewise, we observe a convergence trend in consumption of alcoholic beverages, cigarettes and tobacco, consumption of clothing and shoes, consumption of housing and rent, consumption of furniture, household appliances and home care services. While a divergence was observed in health consumption until 2010, convergence was observed in the period until 2016, but then we witness the divergence again. The same is true for entertainment and cultural expenditures. The coefficient of variation of education consumption never takes a value below the 0.20 threshold. We can state that this situation indicates that it has a direct and negative effect on the level of education in the regions.

4. CONCLUDING REMARKS AND POLICY IMPLICATIONS

Levitt (1983) argues in his study of globalization of markets that consumption patterns between countries are starting to show similarity day by day. After this study of Levitt (1983), the concept of consumption convergence gained popularity in the literature. In addition to globalization, the liberalization of markets, the reduction of trade barriers, the expansion of advertising channels due to the spread of social media have strengthened the idea of similarity in consumption patterns or convergence in consumption. The primary reason why the concept of convergence is so important is that it represents an equal distribution in the variable (income, output, consumption, etc.). For this reason, in this study, we have tried to determine whether there is a convergence in nine consumption items in the IBSS-II regions of Turkey. We have proven that consumption of food and non-alcoholic beverages, consumption of alcoholic beverages, cigarettes and tobacco, consumption of clothing and shoes, consumption of housing and rent, consumption of furniture, household appliances and home care services, and consumption for transportation are converged both on an annual basis and on an average. However, the results of the analysis show that there is a significant divergence in spending on health, education services and entertainment and culture. Based on these results, we can say that the divergence in health, education services, entertainment and cultural expenditures expresses the inequality between regions. These three items are important for the welfare of the society.

Finally, this study examines the issue of consumption convergence using data collected at the level of country clubs or using micro-level data, unlike the existing literature that examines specific product groups. Of course, the study falls short in many respects. Primarily, it is aimed to expand the study in order to find product-based consumption patterns at the micro level. In addition, it is thought that a different dimension can be added to the study by including income and relative price data.

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APPENDIX 1. STATISTICAL REGIONAL UNITS (LEVEL 2)

Code	Region	Code	Region
TR10	(İstanbul)	TR71	(Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir)
TR21	(Tekirdağ, Edirne, Kırklareli)	TR72	(Kayseri, Sivas, Yozgat)
TR22	(Balıkesir, Çanakkale)	TR81	(Zonguldak, Karabük, Bartın)
TR31	(İzmir)	TR82	(Kastamonu, Çankırı, Sinop)
TR32	(Aydın, Denizli, Muğla)	TR83	(Samsun, Tokat, Çorum, Amasya)
TR33	(Manisa, Afyon, Kütahya, Uşak)	TR90	(Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane)
TR41	(Bursa, Eskişehir, Bilecik)	TRA1	(Erzurum, Erzincan, Bayburt)
TR42	(Kocaeli, Sakarya, Düzce, Bolu, Yalova)	TRA2	(Ağrı, Kars, Iğdır, Ardahan)
TR51	(Ankara)	TRB1	(Malatya, Elazığ, Bingöl, Tunceli)

TR52	(Konya, Karaman)	TRB2	(Van, Muş, Bitlis, Hakkari)
TR61	(Antalya, Isparta, Burdur)	TRC1	(Gaziantep, Adıyaman, Kilis)
TR62	(Adana, Mersin)	TRC2	(Şanlıurfa, Diyarbakır)
TR63	(Hatay, Kahramanmaraş, Osmaniye)	TRC3	(Mardin, Batman, Şırnak, Siirt)

APPENDIX 2. ANNUAL AVERAGE PERCENTAGE OF THE CONSUMPTION ITEMS BY YEARS (MV)

Year	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**
	MC1	**MC2**	**MC3**	**MC4**	**MC5**	**MC6**	**MC7**	**MC8**	**MC9**
2004	0.042	0.005	-0.129	-0.137	-0.133	-0.127	0.030	0.108	-0.010
2005	0.049	0.021	0.322	0.030	-0.189	-0.063	-0.032	-0.219	0.104
2006	0.066	0.192	0.107	0.091	0.081	-0.216	-0.019	-0.06	-0.115
2007	-0.019	-0.022	-0.013	0.105	0.039	0.137	-0.281	0.0006	-0.117
2008	-0.072	-0.024	-0.049	0.023	0.054	0.054	-0.179	-0.118	-0.047
2009	-0.163	-0.167	0.092	0.0009	-0.509	-0.150	-0.243	0.015	-0.214
2010	-0.041	-0.09	0.042	-0.070	0.032	-0.216	-0.045	-0.042	-0.151
2011	-0.076	0.098	-0.063	-0.166	-0.013	-0.540	-0.166	0.024	-0.161
2012	-0.006	-0.054	-0.048	-0.285	-0.032	0.166	0.050	0.035	0.040
2013	0.017	.0148	-0.068	-0.157	-0.192	0.005	-0.045	0.003	0.124
2014	-0.039	-0.081	0.041	0.010	-0.007	0.114	0.036	-0.075	-0.048
2015	0.082	0.104	-0.155	0.038	0.142	0.011	0.061	0.093	0.037
2016	0.048	0.0007	0.187	0.087	0.004	0.021	0.029	0.172	0.130
2017	0.001	0.055	0.039	0.008	-0.025	0.108	0.016	-0.022	0.029
2018	-0.032	0.063	-0.010	-0.053	0.127	0.182	-0.049	-0.056	-0.039
2019	-0.036	-0.168	-0.130	0.090	-0.071	-0.016	-0.043	-0.013	0.057

KATKI ORANI / *CONTRIBUTION RATE*	**AÇIKLAMA / *EXPLANATION***	**KATKIDA BULUNANLAR / *CONTRIBUTORS***
Fikir veya Kavram / *Idea or Notion*	Araştırma hipotezini veya fikrini oluşturmak / *Form the research hypothesis or idea*	Ress. Asst. Bahar TAŞ Assoc. Prof. Kübra ÖNDER (Ph.D.)
Tasarım / *Design*	Yöntemi, ölçeği ve deseni tasarlamak / *Designing method, scale and pattern*	Ress. Asst. Bahar TAŞ Assoc. Prof. Kübra ÖNDER (Ph.D.)
Veri Toplama ve İşleme / *Data Collecting and Processing*	Verileri toplamak, düzenlenmek ve raporlamak / *Collecting, organizing and reporting data*	Ress. Asst. Bahar TAŞ Assoc. Prof. Kübra ÖNDER (Ph.D.)
Tartışma ve Yorum / *Discussion and Interpretation*	Bulguların değerlendirilmesinde ve sonuçlandırılmasında sorumluluk almak / *Taking responsibility in evaluating and finalizing the findings*	Ress. Asst. Bahar TAŞ Assoc. Prof. Kübra ÖNDER (Ph.D.)
Literatür Taraması / *Literature Review*	Çalışma için gerekli literatürü taramak / *Review the literature required for the study*	Ress. Asst. Bahar TAŞ Assoc. Prof. Kübra ÖNDER (Ph.D.)

Hakem Değerlendirmesi: Dış bağımsız.

Çıkar Çatışması: Yazar çıkar çatışması bildirmemiştir.

Finansal Destek: Yazar bu çalışma için finansal destek almadığını beyan etmiştir.

Teşekkür: -

Peer-review: Externally peer-reviewed.

Conflict of Interest: The author has no conflict of interest to declare.

Grant Support: The author declared that this study has received no financial support.

Acknowledgement: -