AN ANALYSIS OF THE REAL CONVERGENCE WITHIN THE EUROPEAN UNION AND OF THE WELL-BEING OF THE EUROPEAN CITIZENS

Ana-Maria HOLOBIUC[a]*

[a] *The Bucharest University of Economic Studies, Romania*

ABSTRACT

Real convergence has been considered a fundamental pillar of the European Union and has become more and more debated with the accession of the countries from Central and Eastern Europe to the European group. The main purpose of this paper is to study the economic growth and the real convergence within the enlarged European Union. Moreover, we have tried to analyze the social dimension of the convergence by including in the study three indicators of the labor market: employment rate of young people, compensation of employees and tertiary education attainment. In order to analyze the process of real convergence, we have calculated the coefficient of variation taking into consideration two main clusters of countries: The Old Member States and the New Member States. Our study suggests that the Community's economic landscape continues to be dominated by significant gaps between countries. As far as the well-being of the European citizens is concerned, our study suggests that within the New Member States cluster, the gaps have constantly diminished starting with 2004. In contrast, in the Old Member State group, the economic divergences have been accompanied by discrepancies in the labor market. Although there were voices that argued that the enlargement of the European Union would undermine its economic and political power, it seems that the New Member States group is making important progress in terms of economic convergence, also enhancing the well-being of its citizens.

KEYWORDS: *European citizens, European Union, labor market, real convergence, well-being*

1. INTRODUCTION

Real convergence has been considered a fundamental pillar of the European regional integration process and is referring to the process of reducing the development gaps between poor and rich economies. The concept was popularized in the second half of the 20th century and has become more and more debated with the accession of New Member States to the European Union (EU). Real convergence could be considered a key-principle of the European integration process, being closely correlated with the objective of reaching economic, social and territorial cohesion between the European nations and regions. The literature referring to the real convergence concept is vast and well researched, but theoreticians haven't found a common ground regarding its definition, scope, types and factors on which it depends. The main purpose of this paper is to study the real convergence process both from the perspective of macroeconomic and social indicators. In this respect, we have compared the performances of two cluster of countries - the Old Member States and the New Member States - taking into consideration the GDP per capita and three indicators of the labor market, respectively: employment rate of young people, compensation of employees and tertiary education attainment. In order to study the economic convergence and the well-being of the European citizens within the two groups of countries, we have used the coefficient of variation.

* Corresponding author. E-mail address: *anamaria_holobiuc@yahoo.com*

2. LITERATURE REVIEW

2.1 Economic growth and convergence

At the end of the 20th century, the subject of real convergence has become more and more debated both by researchers and by political decision-makers. According to Matkowski & Próchniak (2007), real convergence defines the trend of reducing the gaps in terms of income and development between economies – income convergence – and the similarity of business cycles between countries – cyclical convergence. The two categories of convergence are independent. Consequently, countries that have similar income levels do not automatically record a synchronization of business cycles. According to the analysts, the two categories of convergence are influenced by the cooperation between economies, notably through trade and capital flows, labor movement and technology transfer.

Marelli (2007) noted that real convergence could be analyzed from two main perspectives. In the long term, real convergence involves the reduction of the structural disparities between countries or regions in order to reach similar equilibrium states, accordingly to the conditional convergence hypothesis. This framework which was popularized by Chenery (1960) states that there is a close link between the development level of countries and regions and their economic structure. According to Marreli, this theory could explain the link between the development level in some regions of Southern and Eastern Europe and the predominant specialization in the agricultural sector.

A topic of great importance for the researchers interested in the theoretical and empirical studies was that of economic growth – convergence. In this respect, researchers have focused on the determinants of productivity and income gaps between countries and regions. Solow (1956) considered that economic integration would favor the convergence process taking into consideration its positive influence on the free movement of production factors. In this respect, Solow demonstrated that economies would achieve the same level of development (steady state) over time. Consequently, in the exogenous growth (neoclassical) framework, all the countries with similar technological characteristics would tend to reach the same prosperity level in long run. According to Beylunioˇglu et al. (2018), economies with the same productivity level will grow at the same rate and reach the same equilibrium state. Mankiw et al. (1992) expanded the Solow model by including the accumulation of human capital, population growth and physical capital, concluding that these determinants explain the differences between countries in the Solow's model. From the perspective of Mankiw et al., the model proposed by Solow does not present convergence, but the conditional convergence.

According to Barro (1991), the assumption that less developed economies tend to grow faster than the richer economies seems to be inconsistent with the contemporary macroeconomic framework. Consequently, Barro (1992) assumes that the growth rates have a low correlation with the initial GDP per capita. In response to the vulnerabilities of Solow's theory, researchers (Romer, 1986) developed a new theory, including increasing yields and technological changes within the production function. The term endogenous growth encompasses theoretical and empirical papers that started to be published in the 1980s. Recent studies on endogenous growth have expanded the neoclassical framework by including in the econometric models other determinants such as decreasing yields, the exogeneity of technological change and the investment in human capital.

2.2 The social dimension of real convergence

The expansion and the deepening of the European Community challenged the contemporary scientific thinking, posing into the question the desiderate of the regional group to reach social and economic cohesion. With the recent internal turbulences, ranging from the governmental debt crisis

to the exit of the Great Britain, theoreticians and decision makers shifted their attention from the economic indicators to other determinants, such as the citizen's well-being and happiness. In this respect, analysts such as Diener et al. (1999), Di Tella et al. (2000), Neumayer (2003), Hagerty & Veenhoven (2003), Giles & Feng (2005) have gone beyond the economic dimension, being interested in explaining the link between the national prosperity and citzens' well-being.

Welsc & Bonn (2008) studied if the subjective well-being (the happiness of citizens) is influenced by the macroeconomic determinants. In this respect, analysts identified that EU's Member States were converging in terms of subjective well-being at the end of the last century. According to the authors, the convergence of the macroeconomic conditions, mainly the inflation rates, had a determinant impact on the citizens' happiness. Moreover, analysts have pointed out that the importance of macroeconomic indicators has changed over time. While in the early 1990s, inflation rates caused divergences between states in terms of life satisfaction, in the 21st century, the income disparities between countries and regions influence the people's subjective well-being.

Diener et al. (1999) highlighted that there is a strong and positive link between the national welfare and subjective well-being. According to analysts, the link between the prosperity of nations and the subjective well-being of citizens is partly influenced by the adjacent features of economies, such as the existence of a democratic framework in which citizens' rights are respected and where the equality of opportunities and the smooth functioning of the market economy are promoted.

Giles and Feng (2005) studied the relationship between the real convergence process, measured by GDP per capita and population welfare, taking into consideration five social indicators: Gini index, life expectancy at birth, population poverty rate, participation rates in tertiary education and environmental degradation. In this respect, the analysts included data on fourteen OECD member states for the period 1960-1995, pointing out that the relationship between prosperity and well-being exists only in some social indicators. Analysts have identified that there is a correlation between prosperity and life expectancy at birth, and the rate of participation in tertiary education. In contrast, the authors have not identified evidence to root out the relationship between the Gini coefficient and the income level.

Di Tella et al. (2000) studied the relationship between macroeconomic trends and the happiness of citizens, bringing to the forefront the effects of the recession on the welfare of the population. In this respect, analysts included in the econometric model data including 12 states from Europe and United States and 250,000 citizens. Di Tella et al. demonstrated that favorable macroeconomic changes, including an increase of GDP/capita, have a positive influence on the level of happiness of citizens. At the same time, the analysts studied if the improvement of the macroeconomic indicators led to a permanent or a temporary welfare for citizens, identifying evidence in favor of both. In this respect, Di Tella et al. have shown that the positive effects of increasing GDP per capita diminish over time as citizens get used to the increase in national prosperity. However, experts have stressed out that not all positive influences on the population disappear over time.

From another perspective, Madzík et al. (2015) studied the relationship between state competitiveness and citizens' standard of living, demonstrating a strong and positive link between the two indicators. The analysts identified some groups of countries with similar characteristics in national competitiveness or living standards. In this respect, Madzík et al. (2015) have studied the performances of the states in particular activities, highlighting that Estonia is the leader in labor market efficiency, and Czech Republic in terms of business sophistication. According to the analysts, the performances of states recorded in some activities contribute to the creation of the best practices in those fields. These practices can be easily adopted by other member states of the cluster, given the similar macroeconomic characteristics all the members of the group have.

3. METHODOLOGY AND RESULTS

3.1 Methodology

In order to study the process of convergence within the EU, we have taken into consideration the economic and social dimensions. In this respect, we did a comparative analysis between the GDP per capita recorded by the Old Member States and the New Member States. Moreover, we have tested the hypothesis that the gaps within and between these groups of countries reduce in time using the coefficient of variation (σ-convergence). Referring to the well-being of the citizens, we have considered the following indicators of the labor market: employment rate of young people, compensation of employees and tertiary education attainment. In order to study the convergence of the citizens' well-being, we have calculated the coefficient of variation for the two cluster of states – Old Member States and New Member States.

3.2 The economic axis

In order to compare the economic performances recorded by the two cluster of states - the Old Member States and the New Member States – Figures 1 and 2 illustrate the GDP per capita, calculated as a percentage of EU (28). In this respect, the highest GDP per capita in the European Union was recorded in 2018 by Luxembourg (318%), being followed by Ireland (216%) and Denmark (166.9%). The lowest values of GDP per capita in this cluster of countries were recorded by Portugal (64.3%) and Greece (55.8%).

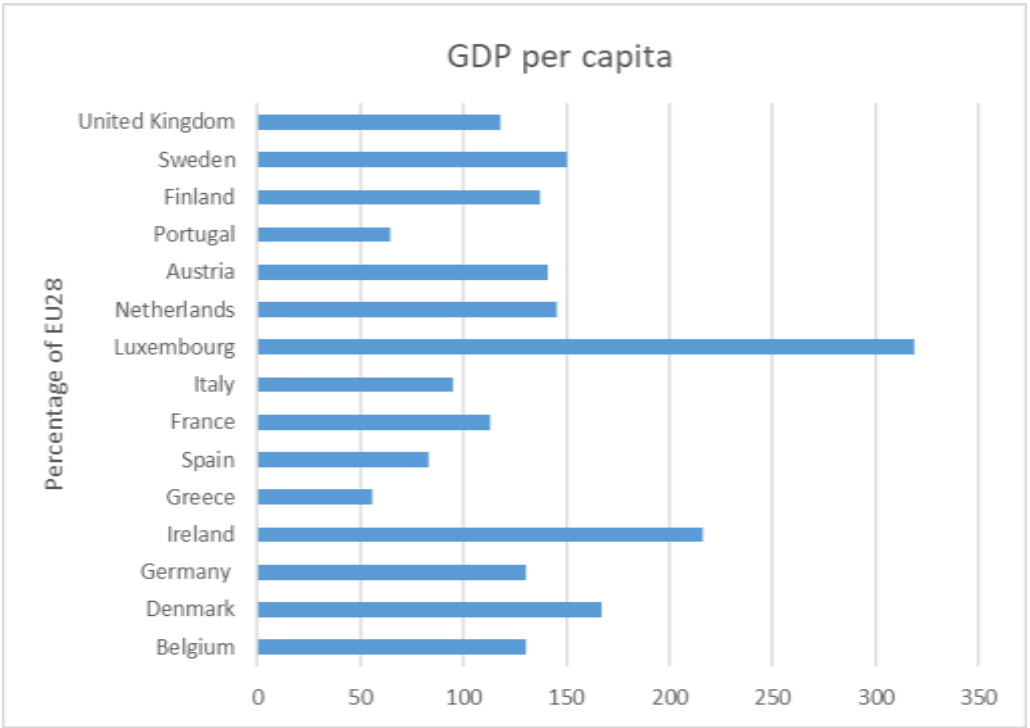

Figure 1. The GDP per capita in the Old Member States in 2018 (percentage of EU28 total per capita, current prices)

Source: Eurostat

Referring to the New Member States, the data provided by Eurostat illustrates that the highest values in terms of GDP per capita were recorded by Malta (82.6%) and Cyprus (78.5 %). In the Central and Eastern Europe group of countries, the best performances were registered by Slovenia (71.6%), Estonia (64.0%) and Czech Republic (63.4%). The lowest values were still recorded in 2018 by Romania (33.7%) and Bulgaria (25.9%). In conclusion, at Community's level, there still

are significant economic gaps between and within the two cluster of countries – Old Member States and the New Member States.

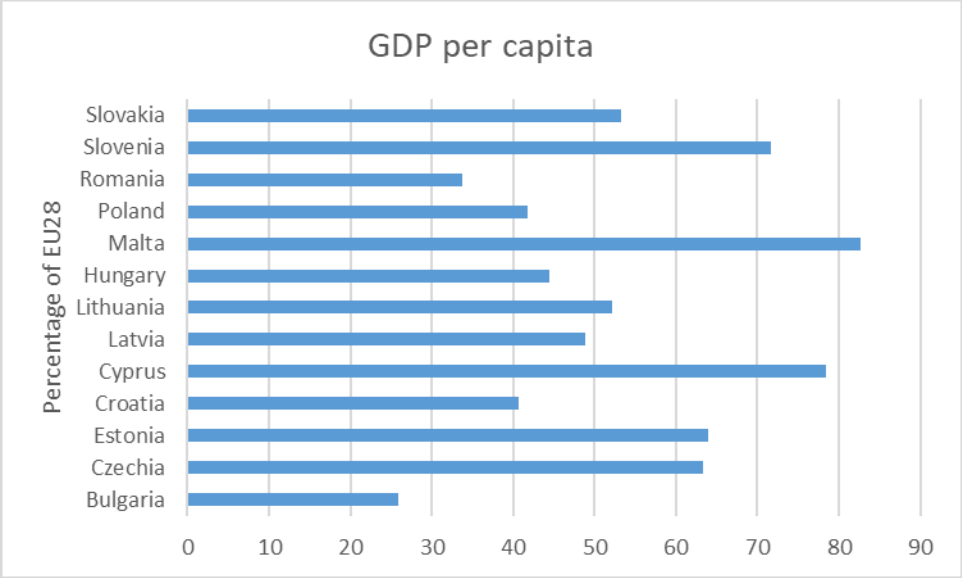

Figure 2. The GDP per capita in the New Member States in 2018 (percentage of EU28 total per capita, current prices)
Source: Eurostat

In order to study the process of real convergence within European Union, we have calculated the coefficient of variation based on the GDP per capita (current prices). This indicator indicates if the discrepancies within and between the groups of countries decreased in time or on the contrary, if they increased. Figure 3 illustrates that the economic gaps between all the 28 Members diminished with 12% between 2004 and 2018. However, the divergences increased within the Old Member States cluster in terms of GDP per capita, as the coefficient of variation raised with 30% during the analyzed period. As far as the New Member States, they succeeded to reduce the discrepancies between them with almost 48%. Consequently, it seems that while the New Member States are catching up, the Old Member States are dominated by significant gaps.

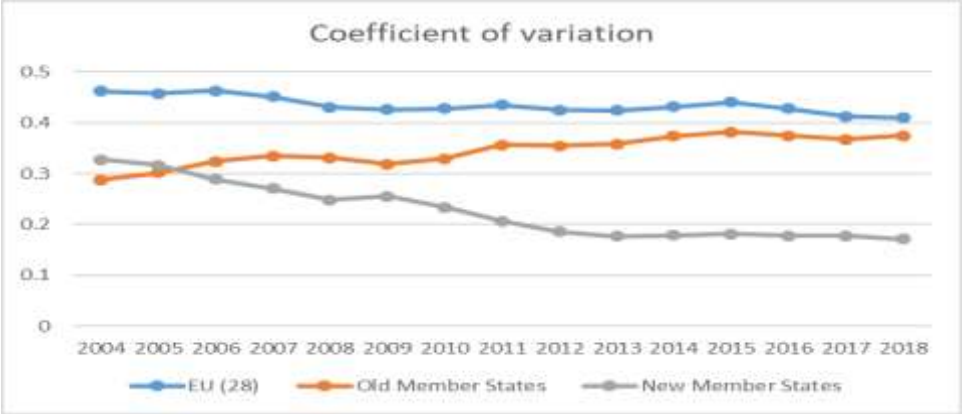

Figure 3. The coefficient of variation of GDP per capita (current prices) between 2004 and 2018
Source: Authors' processing based on data provided by Eurostat

3.3 The well-being axis

Apart from studying the economic performances of the European Union's Member States, another purpose of this paper was to do a comparative analysis between the well-being of the citizens from the two clusters of countries. Our hypothesis was that at Community's level, it hasn't been reached so far the desiderate of convergence in terms of living standards of the citizens. In this respect, we have calculated the coefficient of variation taking into consideration three determinants for the citizens' well-being: employment rate of young people, compensation of employees and tertiary education attainment.

In this respect, Figure 4 illustrates the evolution of the three indicators in the Old Member States between 2004 and 2018. According to our calculations, there was an increase of the divergences within this group in terms of the employment rate of the young people, with 38%. The value of the compensation of employees within the Old Member States had a predominantly stable trend during the 15-year period, while the divergences between countries in terms of tertiary education attainment decreased with 23%.

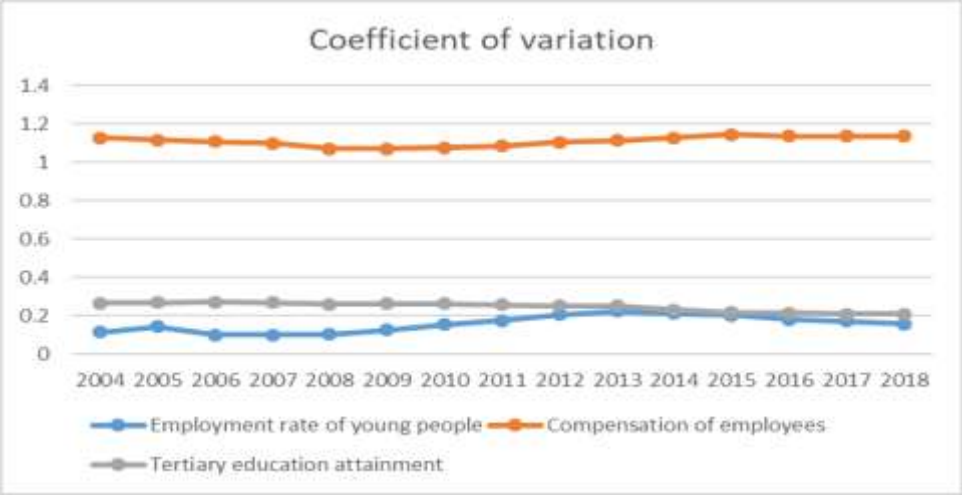

Figure 4. The coefficient of variation of employment rate of young people, compensation of employees and tertiary education attainment in the Old Member States between 2004 and 2018

Source: Authors' processing based on data provided by Eurostat

Figure 5 illustrates the coefficient of variation calculated for the three indicators of the labor market, which are representative for the well-being of the citizens from the New Member States, respectively: employment rate of young people, compensation of employees and tertiary education attainment. In contrast with the trend recorded within the Old Member States group, where the divergences in the employment rate of young people increased, in the New Member States, the values of this indicator converged in the last 15 years. As a result, the divergences decreased with almost 30%. The divergences in the sphere of compensation of employees slightly increased in the New Member States, with 4%, while the gaps in the education attainment diminished with 31% between 2004 and 2018.

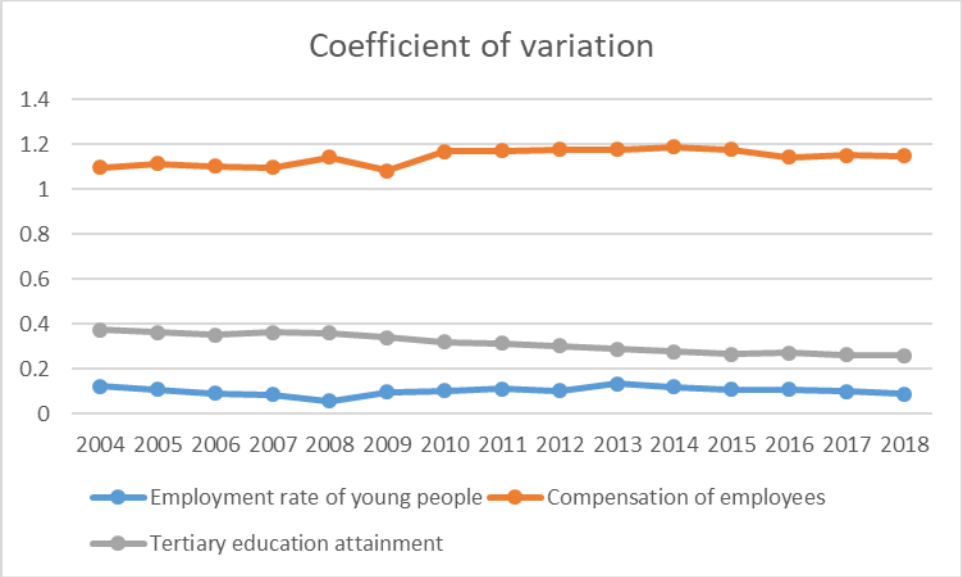

Figure 5. The coefficient of variation of employment rate of young people, compensation of employees and tertiary education attainment in the New Member States between 2004 and 2018

Source: Authors' processing based on data provided by Eurostat

Overall, our analysis suggests that although the New Member States are still behind the Old Member States in terms of the economic performances, measured by GDP per capita, this group of countries is making important steps in terms of reducing the disparities between them. Moreover, we have illustrated that the New Member States have recorded significant improvements in terms of convergence of the labor market indicators.

4. CONCLUSIONS

In conclusion, the main purpose of this paper was to study the real convergence process within the European Union, bringing to the forefront both the economic and social dimensions. As far as the economic axis is concerned, we have illustrated that there persist significant gaps between and within the two clusters of countries – Old Member States and New Member States. However, the countries that joined the European Union in 2000s recorded between 2004 and 2018 significant improvements in terms of economic convergence. In contrast, our analysis illustrates that within the Old Member States, the gaps in terms of GDP per capita are more and more prominent. In order to study the well-being of the European citizens, we have taken into consideration three indicators representative for the labor market: employment rate of young people, compensation of employees and tertiary education attainment. We have concluded that the New Member States cluster is converging also in terms of these factors. In contrast, in the Old Member States cluster, we have identified divergences in terms of the employment rate of the young people. Overall, our analysis suggests that besides the economic policies, the European decision-makers should design and implement more effective measures aiming to improve the convergence of social indicators between countries.

REFERENCES

Barro, R. J. & Sala-i-Martin, X. (1992). Convergence. *Journal of Political Economy*, 100(2), 223-251.

Barro, R. J. (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, 106 (2), 407-443.

Beylunio˘glu, F. C, Yazgan, E, M. & Stengos, T. (2018). Detecting Convergence Clubs. *Macroeconomic Dynamics*, 1-41, doi: 10.1017/S1365100518000391

Chenery, H. B. (1960). Patterns of industrial growth. The American Economic Review, 50, 624-654.

Di Tella, R, MacCulloch R. J., & Oswald, A. J. The Macroeconomics of Happiness. *The Review of Economics and Statistics*, 85 (4), 809-827.

Diener, E., Suh, E., Lucas, R., E. & Smith, H. (1999). Subjective Well-Being: Three Decades of Progress. *Psychological Bulletin*. 125. 276-302.

Giles, D. E.A. & Feng, H. (2005). Output and well-being in industrialized nations in the second half of the 20th century: testing for convergence using fuzzy clustering analysis. *Structural Change and Economic Dynamics*, 16(2), 285-308. doi: 10.1016/j.strueco.2004.08.001

Hagerty, M.R. & Veenhoven, R. (2003). Wealth and Happiness Revisited – Growing National Income Does Go with Greater Happiness. *Social Indicators Research*, 64 (1), 1-27.

Madzík, P., Piteková, J. & Daňková, A. (2015). Standard of Living as a Factor of Countries' Competitiveness. *Procedia Economics and Finance*, 34, 500-507

Mankiw, G. Romer, D. & Weil, D. A. (1992). A Contribution to the Empirics of Economic Growth. *The Quarterly Journal of Economics*, 407-437.

Marelli, E. (2007). Specialisation and Convergence in European Regions. *European Journal of Comparative Economics*, 4 (2), 149-178

Matkowski, Z. & Próchniak, M. (2007). Economic Convergence between the CEE-8 and the European Union, *Eastern European Economics*, 45 (1), 59-76.

Neumayer, E. (2003). Beyond Income: Convergence in Living Standards, Big Time. *Structural Change and Economic Dynamics*, 14 (3), 275-296.

Romer, P. M (1986). Increasing Returns and Long-Run Growth. *The Journal of Political Economy*, 94 (5), 1002-1037.

Solow, R. (1956). A Contribution to the Theory of Economic Growth. *The Quarterly Journal of Economics.* 70 (1), 65-94.