The transition process and institutions: on the issue of the standard of living in the countries of Central and Eastern Europe - members of the European Union

Pilipenko, Igor V.

Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:
Pilipenko, I. V. (2021). The transition process and institutions: on the issue of the standard of living in the countries of Central and Eastern Europe - members of the European Union. *Baltic Region*, *13*(1), 153-179. https://doi.org/10.5922/2079-8555-2021-1-9

THE TRANSITION PROCESS AND INSTITUTIONS: ON THE ISSUE OF THE STANDARD OF LIVING IN THE COUNTRIES OF CENTRAL AND EASTERN EUROPE — MEMBERS OF THE EUROPEAN UNION

I. V. Pilipenko

Institute for Competitiveness and Integration
PO Box 25, Moscow, 115035, Russia

Received 07 October 2020
doi: 10.5922/2079-8555-2021-1-9

The aim of this article is to adjust the technique of comparing the standard of living in 11 countries of Central and Eastern Europe that became members of the European Union (EU) during 2004-2013 (EU-11) and 15 countries of Western, Northern and Southern Europe – member states of the EU by 1995 (EU-15). We reveal that outright home ownership in the EU-11 countries exceeds on average 75%, while almost two-thirds of households in the EU-15 countries have a mortgage or pay rent spending on housing on average up to one quarter of their income. Despite 30 years of transition to a market economy, the EU-11 countries largely inherited such home ownership structure from the centrally planned economy institutions, i.e. individually-owned and cooperative housing, as well as subsidized state-owned housing stock that became the private property of tenants at the start of market reforms. We propose a technique of taking into account households' income and housing costs (mortgage and rent) in one indicator given the current home ownership structure in an economy. After the purchasing power parity (PPP) adjustment, our calculations reveal that the standard of living disparities between the EU-11 and EU-15 states are less significant than when compared at nominal prices or PPP alone. Moreover, the disparity in average living standards between these two groups of countries turns out to be narrower than cross-regional differences within seven EU member states at the Eurostat's NUTS 2 level.

Keywords:
Central and Eastern Europe, European Union, transition process, institutions, standard of living, housing, tenancy, mortgage

Introduction

Three decades have passed since the change of the political system in the countries of Central and Eastern Europe (CEE) and the beginning of their transition to a market economy in 1989—1991. While most of the Western scholars [1; 2] believe that the transition to the democratic form of government through the adaptation of institutions of the European Union (the EU)

To cite this article: Pilipenko, I. V. 2021, The transition process and institutions: on the issue of the standard of living in the countries of Central and Eastern Europe – members of the European Union, *Balt. Reg.,* Vol. 13, no. 1, p. 153—179. doi: 10.5922/2079-8555-2021-1-9.

member states was successful, opinions about the results of social and economic development of the CEE countries during the transition process were not so unambiguous[1] [3—5].

Specialists focusing on the EU studies are particularly concerned with the fact that the CEE countries have been consistently lagging behind the Western and Northern European nations in terms of the standard of living, whereas closing this gap was precisely the primary goal of the reforms launched three decades ago [6; 7]. However, the main priority during the CEE countries' transition process was *de facto* to sustain macroeconomic stability.

Nevertheless, most studies on living standards usually do not pay enough attention to such a factor as outright home ownership in the CEE countries. This state of affairs was largely inherited from the planned economy institutions when providing people with housing or enabling them to obtain dwellings was an obligation of the state. At the start of the market reforms, state housing residents were allowed to privatize their dwellings in addition to a significant share of individually-owned and cooperative housing that had already existed before the transition[2] [8; 9]. Unlike the CEE countries, most of the population in the countries of Western and Northern Europe have a mortgage or pay rent up to now.

We proceed with a brief literature review and then propose how to adjust net disposable income (net earnings) of households to take into account mortgage and rent costs employing the author's technique. This approach allows us to compare more precisely the standard of living in the CEE countries — member states of the EU (EU-11 as of the end of 2013[3]) with 15 countries of Western, Northern

[1] Stuck in Transition. Transition Report 2013. London: European Bank for Reconstruction and Development, available at: https://www.ebrd.com/publications/transition-report-2013-english.pdf (accessed: 23.07.2020).

[2] According to the planned economy principles, three forms of housing property existed in the socialist countries of Central and Eastern Europe, namely state, cooperative (kolkhoz-cooperative property in the USSR) and individually-owned property. In 1975—1985, 88% of new housing construction (by living space) was financed by the state in Romania. In the USSR, the state funding reached 66%, in Bulgaria — 45%, whereas in Czechoslovakia the state financed 30% of new housing construction, in Hungary — 22%, and in Poland — 16%. In the latter four countries, cooperative construction and individually-owned house-building prevailed [the author's calculations according to: Statistical Yearbook of Member States of the Council for Mutual Economic Assistance. Moscow: Finance and Statistics, 1987]. During the 1980s, the population of the USSR used their savings or state loans to finance the construction of 16% of new housing stock, 71% of housing was built by state plants/organisations, while housing construction cooperatives and kolkhozes each put into operation 6% of new buildings. By the year 1990, the USSR citizens owned individually 38% of the total housing stock (21% in urban areas and 70% in rural communities). In the Latvian SSR (the Republic of Latvia) individually-owned housing accounted for 15% of the total urban housing stock, in the Estonian SSR (the Republic of Estonia) — 17.5%, in the Lithuanian SSR in the year 1989—21% [the author's calculations according to: National Economy of the USSR in 1990. State Statistics Committee of the USSR. Moscow: Finance and Statistics, 1991].

[3] In this article, we analyse 11 states of Central and Eastern Europe that joined the European Union during 2004—2013: Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

and Southern Europe (EU-15[4]). Furthermore, we use our calculations to adjust the indicator of net disposable income (net earnings) of households per capita across regions in accordance with the EU's Nomenclature of Territorial Units for Statistics (NUTS) at the NUTS-2 level[5].

A brief literature review

In the Russian academic literature, scholars considered the social and economic development of the CEE countries from the view of their integration model employed in the 1990—2010s [10] and lessons learnt during the transition process [11]. Several publications focused on the political and historical analysis of the CEE countries' transformation [12; 13], the cooperation of the CEE nations and Western European states in the historical perspective [14] and their interactions in trade [15]. Various studies assessed the debt challenges of the CEE states in the aftermath of the 2008 global financial crisis [16], the development of the states after joining the Eurozone [17] and the impact of the Eurozone debt crisis on the social and economic situation in the EU-11 countries [18].

On the country level, the economic growth rates of the Visegrád Group countries (Czechia, Hungary, Poland and Slovakia — V4) were compared with those of the European Union as a whole [19]. Other studies considered investment relations between the V4 states and Russia [20], social and structural shifts, economic assessment problems of the results of the transformation, as well as the formation of a particular social and economic model in the V4 countries [21—23]. Some scholars also analysed the efficiency of the development of the Baltic region states [24], the results of their Euro-Atlantic integration, peculiarities of the economic model and the coalition of the Baltic States (Estonia, Latvia and Lithuania) in the European Union [25—27] along with the middle-income trap challenges in these three countries [28]. Besides this, comparing the results of the CEE countries' transition and that of the Russian Federation attracted the attention of the academic community [29], as well as the cooperation potential between the Russian Federation and the Baltic states in the innovation sphere [30]. The primary indicator to compare the standard of living between the CEE countries and the EU-15 states in the Russian scholarly literature was such a metric as gross domestic product (GDP) per capita at nominal values and at purchasing power parity (PPP) [10; 15; 18; 19; 22; 23; 25; 27—30].

In the English-language literature, detailed studies were published on the characteristics of the transition period in the CEE countries [1; 2; 4; 5; 31] and

---

[4] We compare the EU-11 figures with those of 15 countries of Western, Northern and Southern Europe — member states of the EU as of the end of 1995: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

[5] By the NUTS-2 subdivision, there are 17 regions in Poland; Czechia, Hungary and Romania are subdivided into eight regions each; Bulgaria — into six regions; Slovakia — into four regions; Croatia, Lithuania and Slovenia — into two regions each. The NUTS-2 subdivisions in Estonia and Latvia correspond to the entire country themselves.

the impact of the 2008 crisis on the EU-11 economies [32] and their population/households[6] [33]. Other works considered the peculiarities of the catch-up development of the CEE states within the EU [6] and social and economic challenges in these countries from the point of view of the middle-income trap approach[7].

Annual publications of the Transition Report of the European Bank for Reconstruction and Development (EBRD) contain cross-country comparisons and reviews of economic development tendencies in the CEE region. With regard to our topic, we should refer to the 2000 Transition Report that focused on employment and labour force skills[8] and the 2007 Transition Report devoted to the people in transition[9]. The interrelation between market reforms, income convergence, inequality and well-being was in the focus of the 2013 and 2016—2017 Transition Reports of the EBRD[10]. The issue we are considering in this article was regularly reviewed in the European Union reports "Living Conditions in Europe"[11]. However, this analysis was carried out without paying particular attention to housing expenditures in the EU-11 and EU-15 states. In 2017 and 2019, the Organisation for Economic Co-operation and Development (OECD) released the Affordable Housing Database (AHD), which we use for our calculations together with the relevant data on households published by the Eurostat. Some other publications were devoted to the inequality in living standards in the region [34], the formation of the middle class in several CEE countries[12] [35] and people's happiness during the transition period [36; 37].

[6] The Crisis Hits Homes: Stress-Testing Households in Europe and Central Asia. Washington, DC, 2009, *World Bank*, available at: http://documents1.worldbank.org/curated/en/347521468038144075/pdf/522770PUB0REPL101Official0Use0Only1.pdf (accessed 15.05.2020).

[7] Eight Things You Should Know about Middle-Income Transitions. London, 2019, *European Bank for Reconstruction and Development*, available at: https://www.ebrd.com/publications/ebrd-middle-income-transitions.pdf (accessed 30.07.2020).

[8] Employment, Skills and Transition. Transition Report 2000. London, 2020, *European Bank for Reconstruction and Development,* available at: https://www.ebrd.com/publications/transition-report-2000-english.pdf (accessed 20.07.2020).

[9] People in Transition. Transition Report 2007. London,2007, *European Bank for Reconstruction and Development*, available at: https://www.ebrd.com/publications/transition-report-2007-english.pdf (accessed 20.07.2020).

[10] Stuck in Transition. Transition Report 2013. London, 2013*, European Bank for Reconstruction and Development.* available at: https://www.ebrd.com/publications/transition-report-2013-english.pdf (accessed 23.07.2020); Transition for all: Equal opportunities in an unequal world. Transition Report 2016—17, 2017, *European Bank for Reconstruction and Development (EBRD),* available at: https://www.ebrd.com/publications/transition-report-2016—17.pdf (accessed 23.07.2020).

[11] See, for instance: *Living Conditions in Europe*, 2014, Luxembourg, Eurostat, available at: https://ec.europa.eu/eurostat/documents/3217494/6303711/KS-DZ-14-001-EN-N.pdf/d867b24b-da98—427d-bca2-d8bc212ff7a8 (accessed 25.07.2020).

[12] Russia Economic Report No. 31. Washington, DC, 2014, *World Bank*, available at: http://documents1.worldbank.org/curated/en/517491468092081878/pdf/866400WP-0P14660RER0No-310FINAL07414.pdf (accessed 29.05.2014).

Besides the standard indicator of GDP per capita at nominal prices and PPP[13], which reflects the level of economic development and determine, *ceteris paribus*, the standard of living [1; 2; 4—6; 33; 38—41], scholars abroad employed several other metrics. Primarily, they understood the standard of living as material well-being measured by the level of income[14] [2; 5; 7; 33; 42] and population and households consumption[15] [2; 7; 38; 42]. Several publications examined the issue of living standards by comparing the dynamics of wage level [3; 7; 33; 43; 44], poverty rates[16] [7; 33; 45; 46] or by calculating synthetic indicators (composed of several parameters) [34].

Quite rarely, scholars pay their attention to high outright home ownership rates in the EU-11 countries in comparison to the EU-15 group [3; 47; 48]. Notably, the OECD experts identified a distinct type of housing market (*housing system* according to their terminology) with less favourable housing conditions and high outright home ownership, which most of the CEE countries belonged to [48]. Nevertheless, there have been no attempts so far to adjust estimations of the standard of living in the CEE region based on this kind of information, and most of the indicators discussed above were presented "as is" for both the EU-11 states and the EU-15 countries.

Another approach provided estimations of the impact of property ownership on the overall population well-being that were needed to undertake cross-country comparisons globally. The works employing such a method are estimations of the real value of assets owned by the population and entrepreneurs in the informal sector of some developing economies made by the Institute for Liberty and Democracy under the leadership of the Peruvian economist H. de Soto [49] and calculations of the national wealth and income inequality (*inter alia* in Russia) using the technique of the French economist T. Piketty [see, for instance: 50; 51]. In

[13] *Employment, Skills and Transition. Transition Report 2000*, 2000, London, European Bank for Reconstruction and Development, available at: https://www.ebrd.com/publications/transition-report-2000-english.pdf (accessed 20.07.2020).

[14] Stuck in Transition. Transition Report 2013, London, *European Bank for Reconstruction and Development*, available at: https://www.ebrd.com/publications/transition-report-2013-english.pdf (accessed 23.07.2020); *Living Conditions in Europe*, 2014, Luxembourg, Eurostat, available at: https://ec.europa.eu/eurostat/documents/3217494/6303711/KS-DZ-14-001-EN-N.pdf/d867b24b-da98-427d-bca2-d8bc212ff7a8 (accessed 25.07.2020); Transition for all: Equal opportunities in an unequal world. Transition Report 2016—17, 2017, *European Bank for Reconstruction and Development (EBRD),* available at: https://www.ebrd.com/publications/transition-report-2016—17.pdf (accessed: 23.07.2020); Eight Things You Should Know about Middle-Income Transitions, London, 2019, *European Bank for Reconstruction and Development*, available at: https://www.ebrd.com/publications/ebrd-middle-income-transitions.pdf (accessed 30.07.2020).

[15] Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia, 2000, Washington, DC, the World Bank; The Crisis Hits Homes: Stress-Testing Households in Europe and Central Asia, 2009, Washington, DC, *World Bank*, available at: http://documents1.worldbank.org/curated/en/347521468038144075/pdf/522770PUB0REPL101Official0Use0Only1.pdf (accessed 15.05.2020).

[16] Poverty in Eastern Europe and the CIS, 2004, Economic Survey of Europe. *UNECE*, no. 1, p. 163—176.

addition, the banking group Credit Suisse has published its annual Global Wealth Report[17] with estimations of housing value owned by households since 2010.

The dynamics of basic indicators characterizing the standard of living

The dynamics of the main macroeconomic indicators (GDP and GDP per capita) throughout 1990—2019 illustrates that living standards in the CEE region converged with those of Western Europe. Overall, the GDP of the EU-11 grew 123% whereas the aggregate GDP of the EU-15 increased by 68% only. This was achieved due to a higher economic growth in Poland, the largest country in the EU-11 (36% of the region's GDP), and in Slovakia (6.0%), Slovenia (3.0%), Estonia (1.9%) and Romania (15.1% of the EU-11 aggregate GDP) (see fig.1). At the same time, the GDP growth rate in Czechia, the third-largest country in the region (14.8%), exceeded the growth rate of the EU-28 average by mere 3.0%, and Bulgaria (4.0% of the regional aggregate GDP) had the same GDP growth rate as the European Union average. Hungary (10%), Lithuania (3.2%), Croatia (3.6%) and Latvia (2.0% of the EU-11 GDP) turned out to be on the other side with cumulative GDP growth rates lower than the EU-28 average.

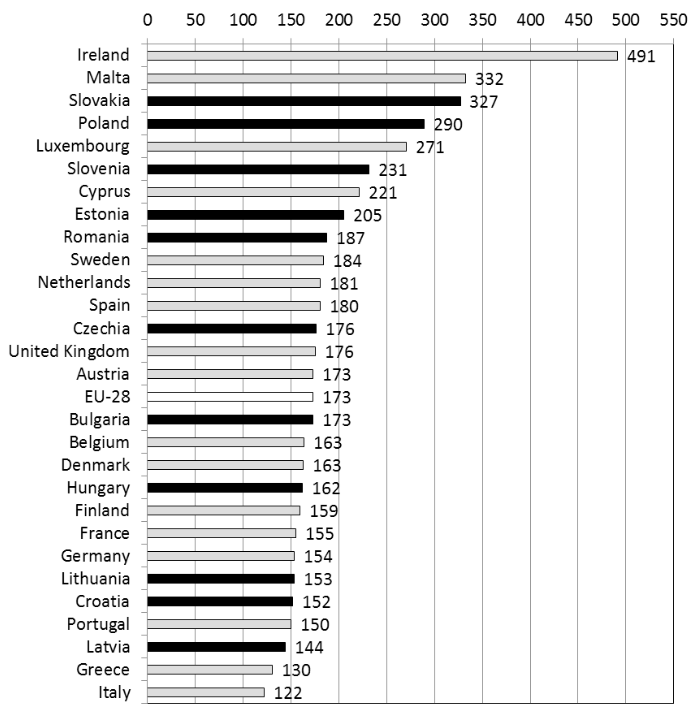

Fig. 1. GDP growth in the EU countries in 1990—2019 indexed to 1990=100.

Source: author's calculations based on the data from: World Development Indicators. Washington, DC, 2020, *World Bank*, available at: https://databank.worldbank.org/source/world-development-indicators# (accessed 27.07.2020).

[17] Global Wealth Report 2019, 2019, *Credit Suisse Research Institute*, October, 64 p., available at: https://www.credit-suisse.com/media/assets/corporate/docs/about-us/research/publications/global-wealth-report-2019-en.pdf (accessed 03.09.2020).

However, during 1990—2019, the population of Latvia simultaneously shrank by 28.0%, in Lithuania — by 24.4%, in Bulgaria — by 20.2%, in Romania — by 16.4%, in Estonia — by 15.6%, in Croatia — by 14.6%, and in Hungary — by 5.8%. As a result, these countries' GDP per capita increased more than the growth rate of GDP. Together with Poland where the population slightly decreased (by 0.2%), Czechia, Slovakia and Slovenia, where, on the contrary, the population grew by 2.8%, 3.0% and 4.2% accordingly, the CEE countries found themselves among the leaders in the European Union in terms of GDP per capita growth throughout 1990—2019 (fig. 2).

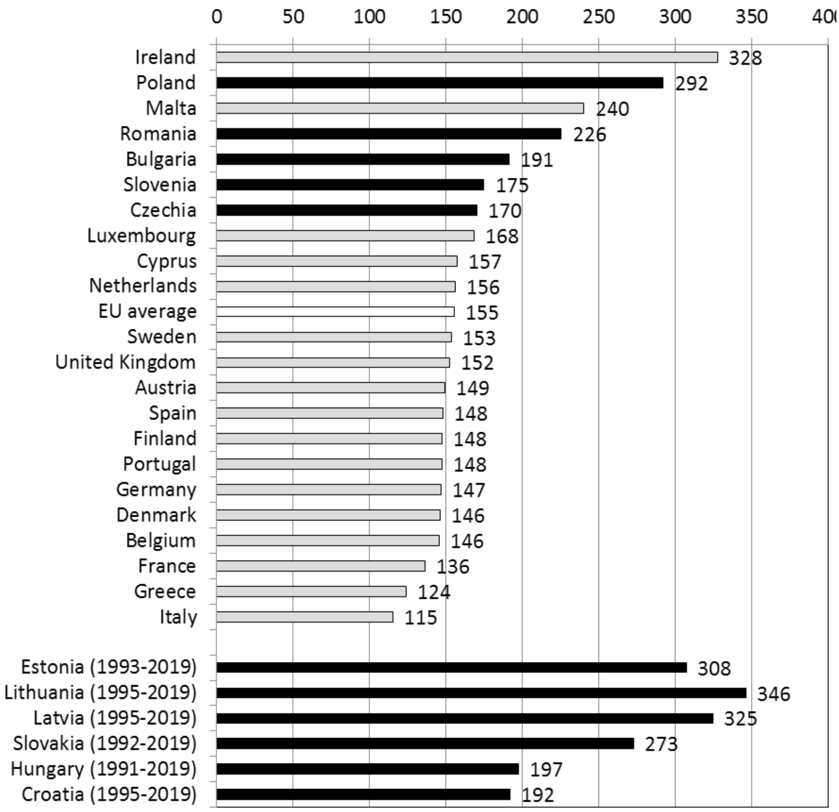

Fig. 2. GDP per capita growth in the EU countries in 1990—2019 at PPP in constant prices indexed to 1990=100

Source: author's calculations based on the data from: World Development Indicators, 2020, Washington, DC, *World Bank*, availalble at: https://databank.worldbank.org/source/world-development-indicators# (accessed 27.07.2020).

At the same time, we should take into account a kind of low base effect because of the distinct price system in the planned economy that differed significantly from the EU-15 countries [52]. In the socialist states, the government kept low prices for transport, housing, electricity, water and gas services and socially important goods. Some services and social benefits were not monetized enough [see: 53]. Even 30 years after the end of the planned economy, the difference in price levels between the CEE and the EU-15 states is still an issue despite these countries' integration within the Economic and Monetary Union and a high degree of economic openness [54] (fig. 3).

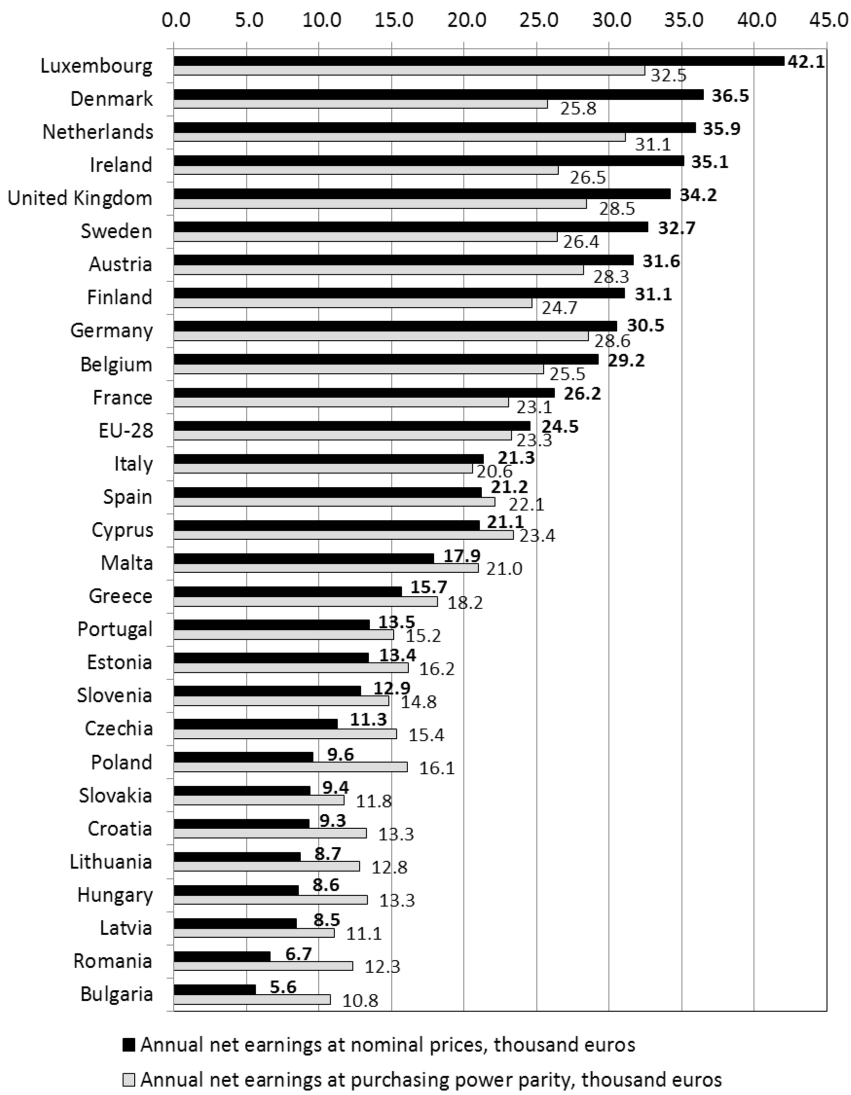

Fig. 3. Single-person households' average net earnings in the EU countries at nominal prices and at purchasing power parity, 2018

Source: Luxembourg: Eurostat, 2020, *Eurostat Database*, available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

If one looks at single-person household's annual net earnings at nominal prices as of 2019, one can see that it reached 27 600 euros in the EU-15 countries and only 8900 euros in the EU-11 region. As a result, all the CEE states considered in this article occupy last 11 places in the EU member states' list by this indicator. When purchasing power parity (PPP) is taken into account, the difference between two country groups diminishes from 3.1 times to 1.8 times, *i.e.* 25 000 euros in the EU-15 countries and 14 100 euros in the EU-11 region. The income level at PPP in comparison to nominal prices rises by 92% in Bulgaria, 85% in Romania, 68% in Poland, 55% in Hungary, 47% in Lithuania, 43% in Croatia, 36% in Czechia, 31% in Latvia, 25% in Slovakia, 21% in Estonia, and by 15% in Slovenia. Consequently, when accounting for domestic price levels, single-person household's annual net earnings turn out to be higher in Estonia (16 200 euros), Poland (16 100 euros) and Czechia (15 400 euros) than in Portugal (15 200 euros). At the same time, the income differential between the most advanced (Luxembourg) and most lagging (Bulgaria) countries in the European Union decreases from 7.5 times to three-fold only. Similarly, the disposable income gap between the EU-15 and EU-11 countries for households comprised of two-earner couple with two children, one earning 100% and the other 67% of the average earning, diminishes from 3.05 times at nominal prices (50 700 euros vs 16 600 euros) to 1.7 times at PPP (45 900 euros vs 26 400 euros). In the same way, four-people households' disposable income in Luxembourg is 8.5 times higher than in Bulgaria at nominal prices (83 700 euros vs 9 800 euros) and only 3.4 times higher at PPP (64 700 euros vs 18 900 euros).

The distribution of households by tenure type

When we consider the housing distribution by tenure status in the EU states, the standard of living disparities within the European Union country groups happen to be even narrower (fig. 4).

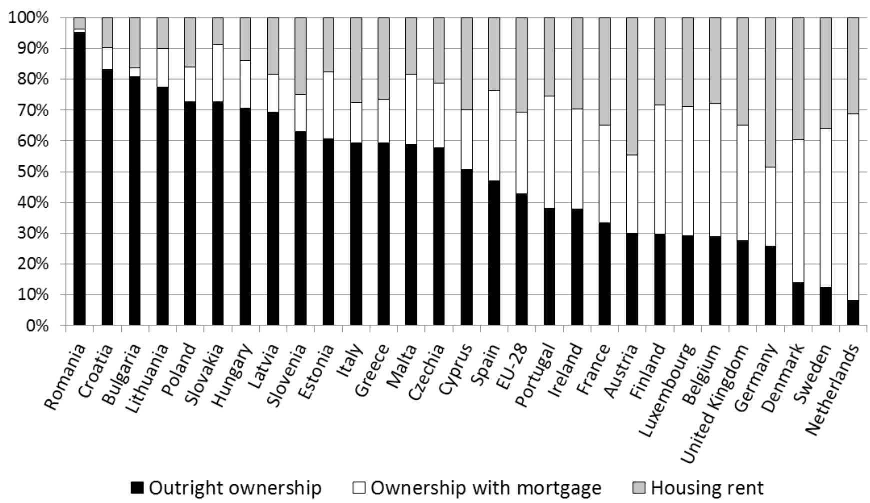

Fig. 4. Distribution of households in the EU countries by housing tenure, 2018

Source: Luxembourg: Eurostat, 2020, *Eurostat Database*, available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

In the EU-11 region, the average outright home ownership rate amounts to 76%, while 11% of households have a mortgage and the remaining 13% pay rent.

At the same time, in the EU-15 countries, only 35% of households are outright homeowners, 30% of households have a mortgage, and the other 35% pay housing rent. The EU-11 countries occupy top 10 places in the European Union in terms of the share of outright homeowners, with Romania ranking first with 95% of households, Croatia ranking second with 83%, and Bulgaria ranking third with 81% of households with outright home ownership. Only Czechia occupies the 14th place (58%) after three Southern European countries, *i.e.* Italy, Greece and Malta (59% each). Conversely, the EU countries with high net earnings are found at the bottom of this list with less than 15% of households owning their homes with no mortgage (8% in the Netherlands, 12% in Sweden and 14% in Denmark).

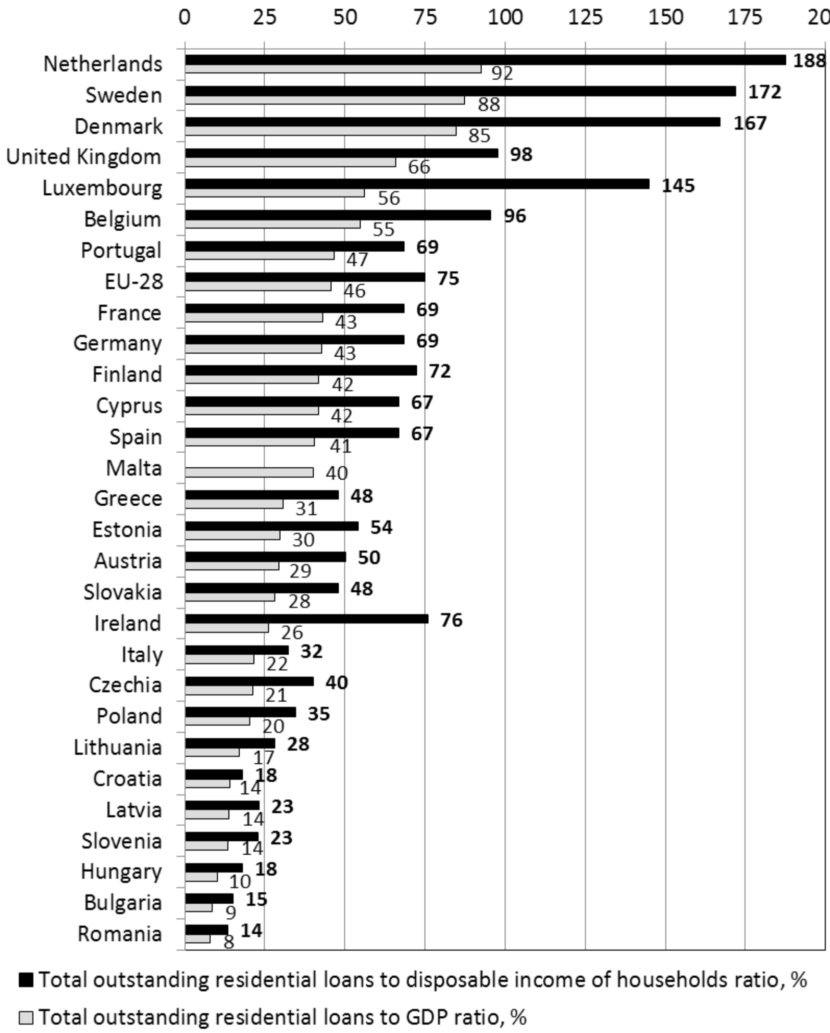

Fig. 5. Total outstanding residential loans to GDP and to disposable income of households ratios*, 2018

Note: * — no data for Malta.

Source: Hypostat 2019: a Review of Europe's Mortgage and Housing Markets, 2019, Brussels, *European Mortgage Federation*, available at: https://hypo.org/app/uploads/sites/3/2019/09/HYPOSTAT-2019_web.pdf (accessed 24.07.2020).

Consequently, on the one hand, mortgage markets are well developed in the countries of Western and Northern Europe (fig. 5) where total outstanding residential loans to GDP ratio in 2018 ranged from 85—92% in the countries mentioned above to 41—43% in Spain, Finland, Germany and France. On the contrary, in the EU-11 region, Estonia and Slovakia had the highest ratio of 30% and 28% respectively, while this indicator in six countries equalled to less than 15% of their GDP. On the other hand, despite high levels of household income in the EU-15 region, mortgage burden exceeded 100% of households' disposable income peaking in Luxembourg at 145%, Denmark (167%), Sweden (172%) and the Netherlands (188%). In 2015, the European Federation of Public Cooperative and Social Housing (Housing Europe) yet identified housing costs burden as one of the major driving forces of the housing sector crisis unfolding in the European Union since the middle of the 2010s[18].

Since on average 65% of households in the EU-15 countries are not outright homeowners, these families need to spend a considerable portion of their income on mortgage and rent payments — 17% and 23% in this region respectively (fig. 6). In the EU-11 countries, households spend on average 15% of their income on mortgage and 19% on housing rent (share of income in respective household groups). However, on average only 24% of households in the EU-11 economy belong to these categories.

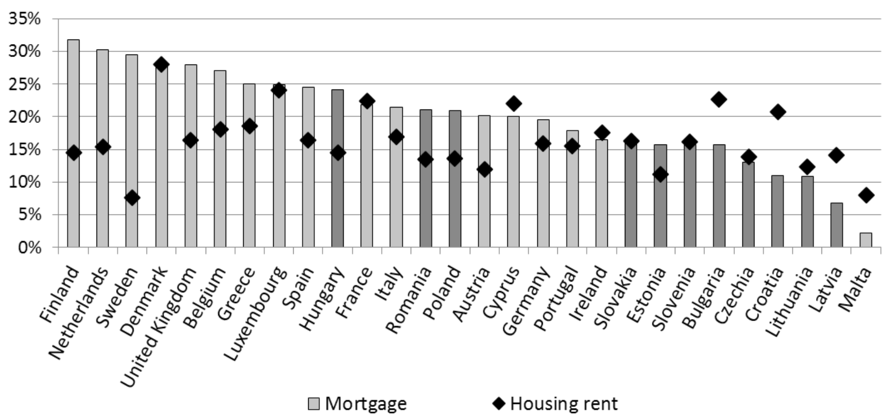

Fig. 6. Households' mortgage burden and rent costs
as a share of disposable income, 2018

Source: Housing Conditions, 2019, *OECD Affordable Housing Database*, Paris, OECD, available at: http://www.oecd.org/social/affordable-housing-database/housing-conditions/ (accessed 27.07.2020).

[18] The State of Housing in the EU 2015, 2015, *A Housing Europe Review*, available at: https://www.housingeurope.eu/resource-468/the-state-of-housing-in-the-eu-2015 (accessed 03.09.2020).

The method for assessing the standard of living using the income data adjusted for mortgage/rent costs

To compare the standard of living in the EU-11 and EU-15 countries adjusted for mortgage and rent costs, we shall incorporate in one indicator both the income level and households' spending patterns that depend on the home ownership structure in an economy. We shall use the data on net household earnings at PPP and calculate values for each EU member state adjusted for mortgage and rent costs with a share of each household category as a corresponding weight according to the following formula:

$$E_{adj} = S_m \times (E - (E \times B_m)) + S_t \times (E - (E \times B_t)) + S_{ow} \times E, \qquad (1)$$

where E_{adj} denotes net earnings of households adjusted for mortgage and rent spending; E denotes net earnings of households in a country; S_m denotes the share of households with a mortgage; S_t denotes the share of households paying rent; S_{ow} denotes the share of households with outright home ownership (the E, S_m, S_t, S_{ow} numbers are taken from the Eurostat database); B_m denotes the share of mortgage costs in disposable income of households with a mort-mortgage; B_t denotes the share of rent costs in disposable income of households that rent their dwellings (the B_m, B_t numbers are taken from the OECD AHD database[19]). As two main types of households for our analysis, we selected households comprised of a single person without children earning 100% of the national average earning and households comprised of a two-earner couple with two children, one earning 100% and the other 67% of the national average earn-earning, according to the Eurostat classification.

Furthermore, having calculated the disposable income of households at PPP adjusted for mortgage and rent spending in the EU-11 and the EU-15 countries, we shall adjust values for the NUTS-2 regions within the European Union states. We shall compute a correction coefficient for each country in the EU-11 and EU-15 groups as an arithmetic mean of ratios of disposable incomes of single- and four-person households adjusted for mortgage and rent costs to their net earnings at PPP provided by the Eurostat. Consequently, using these correction coefficients for each EU-11 and EU-15 country, we shall adjust the NUTS-2 regional indicator of households' disposable income per capita according to the following formula:

[19] We computed the missing values for Bulgaria, Denmark and Romania using the OECD data on total mortgage and rent costs and the share of rent payments in these countries.

$$E_{reg\_adj} = ((E^{h1}_{adj}/E^{h1} + E^{h4}_{adj}/E^{h4})/2) \times E_{reg}, \tag{2}$$

where E_{reg_adj} denotes disposable income of households in a NUTS-2 re-region of an EU-11 or EU-15 country adjusted for mortgage and rent spending; E^{h1}_{adj} denotes disposable income of households comprised of a single person without children earning 100% of the national average earning at PPP adjusted for mortgage and rent spending (our calculations); E^{h4}_{adj} denotes disposable in-income of households comprised of a two-earner couple with two children, one earning 100% and the other 67% of the national average earning, at PPP adjust-adjusted for mortgage and rent spending (our calculations); E^{h1} denotes net earnings of households comprised of a single person without children earning 100% of the national average earning at PPP (the Eurostat data); E^{h4} denotes net earnings of households comprised of a two-earner couple with two children, one earning 100% and the other 67% of the national average earning, at PPP (the Eurostat data); E_{reg} denotes disposable income of households per capita in a NUTS-2 region of a country (the Eurostat data). For our calculations, we as-assumed that there is a common housing tenure structure across the NUTS-2 regions within the EU-11 and EU-15 countries.

The calculation results and their impact on the standard of living estimations

As presented in Figure 7, our calculations using (1) reveal that the adjusted average net earnings of single-person households in the EU-15 exceed those of the EU-11 countries by 59% only (21 600 euros vs 13 500 euros per year). The gap between Luxembourg and Bulgaria diminishes to a 2.48-times difference accordingly, and this underlines a more even distribution of living standards in the European Union countries in comparison with the usually taken indicators at nominal prices or PPP alone. The EU-28 average annual income of single-person households at PPP and adjusted for mortgage and rent costs decreases from 24 500 euros at nominal prices and 23 300 euros at PPP to 20 000 euros (fig. 3 and fig. 7).

In turn, our estimations evidence that the level of the adjusted average net earnings of four-person households in the EU-15 is 57% higher than in the EU-11 countries (39 700 EUR vs 25 300 EUR) and this indicator in Luxembourg exceeds that of Bulgaria by 2.92 times. The EU-28 adjusted average annual net earnings of four-person households amount to 36 800 euros against 42 800 euros at PPP and 45 100 euros at nominal prices.

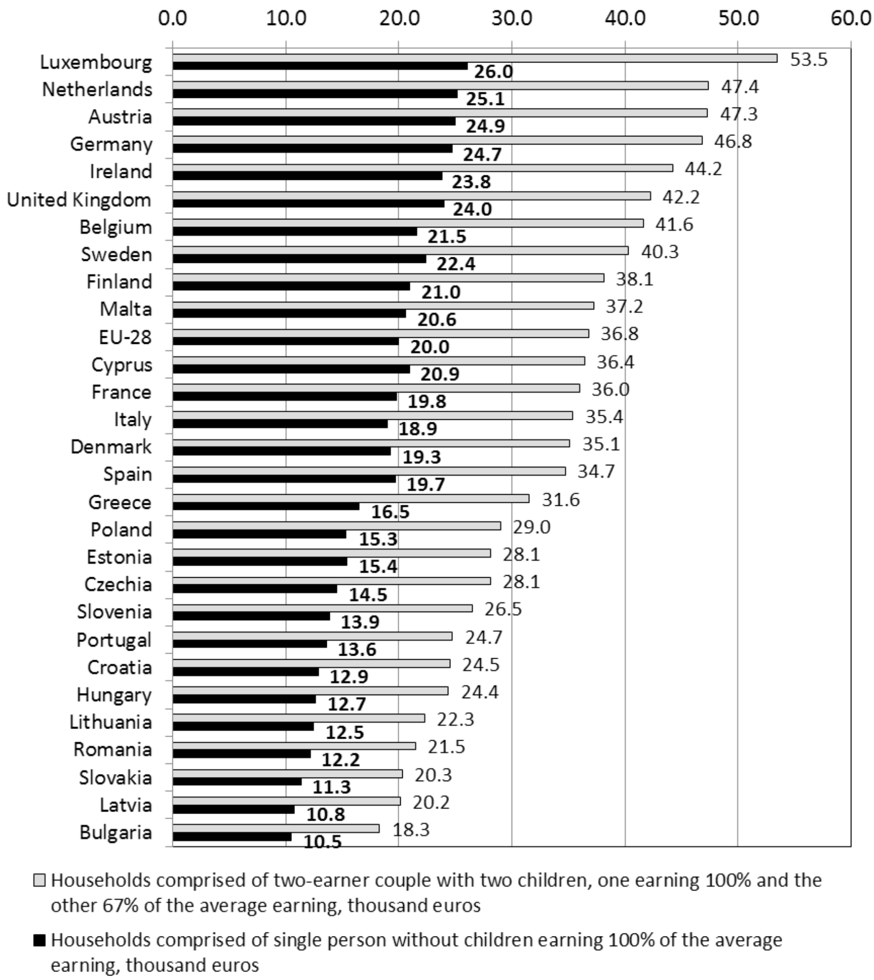

Fig. 7. Net earnings of two types of households adjusted for mortgage and rent costs in two types of households in the EU countries, 2018

Source: author's calculations based on the data from: Luxembourg, Eurostat, 2020, *Eurostat Database*, available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020); Housing Conditions, 2019, *OECD Affordable Housing Database*, Paris, OECD, available at: http://www.oecd.org/social/affordable-housing-database/housing-conditions/ (accessed 27.07.2020).

The technique that we proposed in this article allows us to determine more accurately the living standards in the CEE countries in comparison to the EU and the EU-15 averages (fig. 8 and fig. 9)[20]. The adjusted average income level of single-person households in Estonia stands at 77% of the EU-28 average (70%

[20] It should be noted that our adjustment for mortgage and rent costs reduces the values of net earnings for all the EU states. However, due a higher share of households paying a mortgage or renting their dwellings, the decrease for the EU-15 countries is a more pronounced one than for the EU-11 states.

at PPP and 55% at nominal prices), 76% in Poland (69% and 39% accordingly), 73% in Czechia (66% and 46%), 69% in Slovenia (64% and 53%), 65% in Croatia (57% and 38%), 63% in Hungary (57% and 35%), 62% in Lithuania (55% and 35%), 61% in Romania (53% and 27%), 57% in Slovakia (51% and 38%), 54% in Latvia (48% and 35%), and 53% of the EU-28 average in Bulgaria (46% at PPP and 23% at nominal prices).

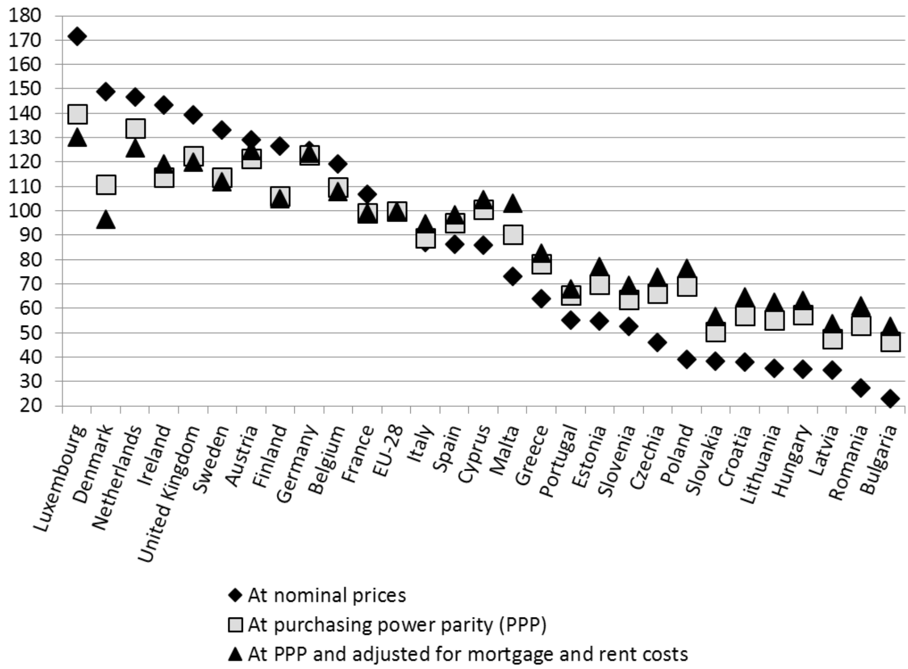

Fig. 8. Net earnings of households comprised of single person without children earning 100% of the national average earning at nominal prices, at PPP and adjusted for mortgage and rent costs (EU-28 = 100), 2018

Source: author's calculations based on the data from: Luxembourg, Eurostat, 2020, *Eurostat Database,* available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

Our calculations for four-person households show similar results, as the adjusted average net earnings in Poland achieve the level of 79% of the EU-28 average (71% at PPP and 40% at nominal prices), 76% in Estonia (69% and 55% accordingly), also 76% in Czechia (69% and 48%), 72% in Slovenia (66% and 54%), 67% in Croatia (59% and 39%), 66% in Hungary (60% and 37%), 61% in Lithuania (54% and 35%), 58% in Romania (51% and 26%), 55% in Slovakia (50% and 38%), 55% in Latvia (49% and 35%), and 50% of the EU-28 average in Bulgaria (44% at PPP and 22% at nominal prices).

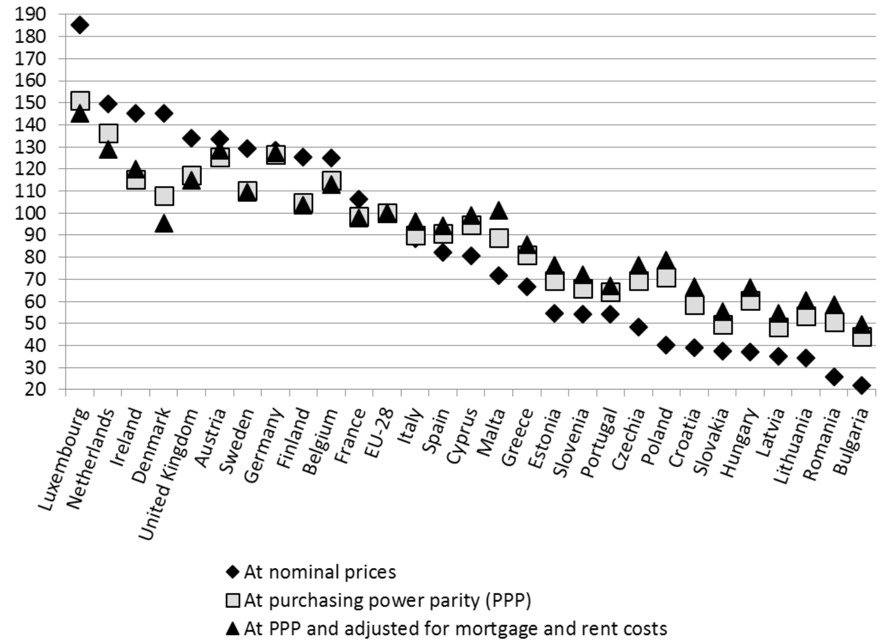

Fig. 9. Net earnings of households comprised of two-earner couple with two children, one earning 100% and the other 67% of the national average earning, at nominal prices, at PPP and adjusted for mortgage and rent costs (EU-28 = 100), 2018

Source: author's calculations based on the data from: Luxembourg, Eurostat, 2020, Eurostat Database, available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

We should also notice that the well-being of outright homeowners in the EU-11 is usually close to the national average, whereas households renting their dwellings have relatively lower incomes and are more likely to find themselves at risk of poverty or social exclusion, according to the Eurostat classification[21] (Figure 10). In turn, the wealthiest are households with a mortgage. Among the households from this group in Czechia, the share of families at risk of poverty or social exclusion is 6.6 times lower than in the group of households paying rent, 6.2 times lower in Romania, 5.5 times in Poland, 5.3 times in Slovenia, 5.0 times in Lithuania, 3.6 times in Latvia, 3.5 times in Croatia, 2.8 times in Estonia, 2.6 times in Slovakia, 1.5 times in Hungary and 1.4 times in Bulgaria. In addition, Czechia, Slovenia and Slovakia distinguish themselves as countries in the European Union with the lowest share of households at risk of poverty or social exclusion (12.2%, 16.2% and 16.3% accordingly).

[21] Luxembourg: Eurostat, 2020, Eurostat Database, available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

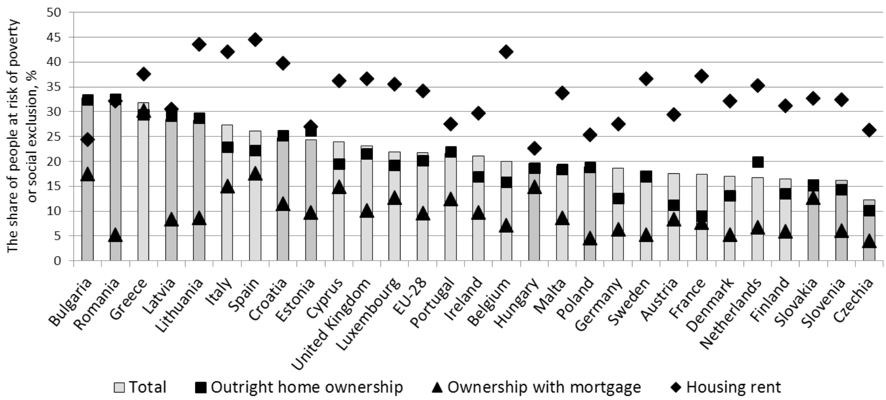

Fig. 10. The share of people at risk of poverty or social exclusion by tenure status, %age, 2018

Source: Luxembourg, Eurostat, 2020, *Eurostat Database,* available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

The comparison with cross-regional discrepancies within the European Union member states

The differences in the standard of living among the EU states turn out to be reasonably comparable with regional disparities within certain countries. For example, when we analyse the distribution of disposable income of households per capita across 275 NUTS-2 regions by the Eurostat classification (fig. 11)[22], we find out that the standard of living discrepancies between the EU-11 and EU-15 country groups adjusted for mortgage and rent costs are less significant than cross-regional disparities in the United Kingdom (3.1-times the difference between the regions with a maximum and minimum income level, as provided by the Eurostat[23]), in Romania (2.9 times), Bulgaria (2.1 times), Italy and Slovakia (twofold), Poland (1.8 times) and Spain (1.7-times difference).

In the other EU-11 countries, disposable income of households per capita in the richest region of Czechia is 50% higher than that of the poorest region in the country. Accordingly, it is 35% higher in Hungary, 24% higher in Lithuania, 4.0% higher in Slovenia, and 1.0% higher in Croatia. Two regions from the EU-11 countries can be found in the top 100 regions of the EU-28 in terms of disposable income of households per capita (ranked 63rd and 74th). The second 100 regions' cohort contains already six regions from the CEE region (ranked 101st, 125th, 164th, 192nd, 194th and 197th). The remaining 51 EU-11 regions are in the lower part of this list together with 24 regions from four countries of the EU-15 group (Spain, Italy, Portugal and Greece). The national capital regions of Romania, Slo-

[22] In our analysis, we use the latest available data provided by the Eurostat for 2017. The list contains 275 regions from all countries of the EU except Malta.

[23] In this case, we assume that the housing tenure structure within a country does not considerably affect the cross-regional disparities in living standards.

vakia, Poland and Czechia with the level of disposable income of households per capita at 19 700 euros, 19 300 euros and 17 700 euros accordingly, surpass the EU average of 16 800 euros (fig. 11).

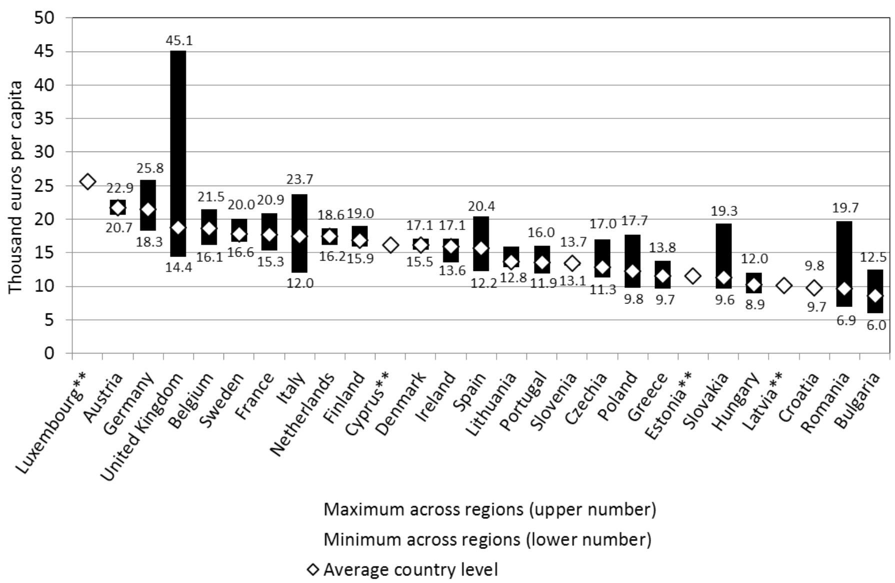

Fig. 11. Disparities in disposable household income per capita at PPP in the EU counE tries at regional NUTS-2 level, 2017 г.*

Notes: * — no data for Malta; ** — Luxembourg, Cyprus, Estonia and Latvia are not subdivided into NUTS-2 regions.

Source: author's calculations based on the data from: Luxembourg, Eurostat, 2020, *Eurostat Database,* available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

Having adjusted the net earnings values at PPP for the EU-11 and the EU-15 states by incorporating mortgage and rent costs, we can further adjust the Eurostat numbers on the disposable income of households in the NUTS-2 regions using (2). Taking this adjustment into account (fig. 12), five regions from the EU-11 can be found in the top 100 regions of the European Union. In addition to four national capital regions mentioned above (19 500 euros in the region of Bucuresti-Ilfov, 18 500 euros in Bratislavský kraj, 16 800 euros in Warszawski stoleczny region and 16 100 euros in the region of Praha), Sostines regionas (the capital region in Lithuania) with the adjusted disposable income of households per capita of 15 000 euros exceeds the EU average of 14 400 euros[24]. The second group of 100 NUTS-2 regions contains already eight regions from the EU-11

[24] In the capital region of Hungary (Budapest), the adjusted disposable income of households per capita amounts to 12 000 EUR, as provided by the Eurostat, and 11,400 euros with our adjustment. For the Yugozapaden region of Bulgaria that includes the national capital Sofia, the numbers are 12,500 euros and 12,100 euros, accordingly. No capital regions at the NUTS-2 level are distinguished in Latvia, Slovenia, Croatia and Estonia.

countries (ranked 179th, 181st, 184th, 189th, 192nd, 193rd, 195th and 196th), and the other 46 regions are at the bottom of the list accompanied by 29 regions from the EU-15 countries. Therefore, besides the income differentiation between the EU-15 and the EU-11 countries, regional income disparities within the CEE countries pose an even more severe problem (see also: [55]).

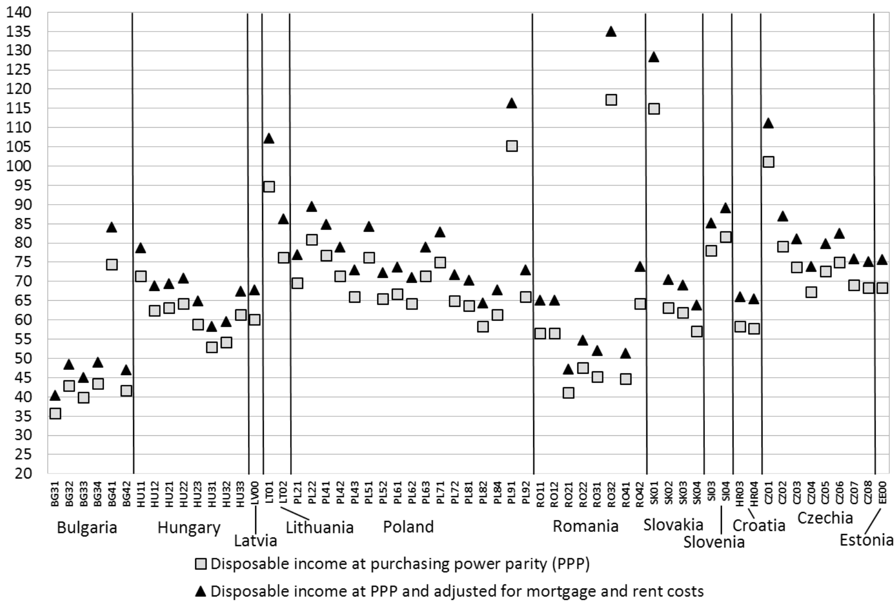

Fig. 12. Households' disposable income per capita at PPP and adjusted for mortgage and rent costs in the NUTS-2 regions of the EU-11 countries in comparison to the EU average (EU = 100), 2017*

Note: * — NUTS-2 regions of Bulgaria: BG31 — Severozapaden, BG32 — Severen tsentralen, BG33 — Severoiztochen, BG34 — Yugoiztochen, BG41 — Yugozapaden, BG42 — Yuzhen tsentralen; regions of Hungary: HU11 — Budapest, HU12 — Pest, HU21 — Közép-Dunántúl, HU22 — Nyugat-Dunántúl, HU23 — Dél-Dunántúl, HU31 — Észak-Magyarország, HU32 — Észak-Alföld, HU33 — Dél-Alföld; regions of Lithuania: LT01 — Sostines regionas, LT02 — Vidurio ir vakaru Lietuvos regionas; regions of Poland: PL21 — Malopolskie, PL22 — Slaskie, PL41 — Wielkopolskie, PL42 — Zachodniopomorskie, PL43 — Lubuskie, PL51 — Dolnoslaskie, PL52 — Opolskie, PL61 — Kujawsko-Pomorskie, PL62 — Warminsko-Mazurskie, PL63 — Pomorskie, PL71 — Lódzkie, PL72 — Swietokrzyskie, PL81 — Lubelskie, PL82 — Podkarpackie, PL84 — Podlaskie, PL91 — Warszawski stoleczny, PL92 — Mazowiecki regionalny; regions of Romania: RO11 — Nord-Vest, RO12 — Centru, RO21 — Nord-Est, RO22 — Sud-Est, RO31 — Sud-Muntenia, RO32 — Bucuresti-Ilfov, RO41 — Sud-Vest Oltenia, RO42 — Vest; regions of Slovakia: SK01 — Bratislavský kraj, SK02 — Bratislavský kraj, SK03 — Stredné Slovensko, SK04 — Východné Slovensko; regions of Slovenia: SI03 — Vzhodna Slovenija, SI04 — Zahodna Slovenija; regions of Croatia: HR03 — Jadranska Hrvatska, HR04 — Kontinentalna Hrvatska; regions of Czechia: CZ01 — Praha, CZ02 — Strední Cechy, CZ03 — Jihozápad, CZ04 — Severozápad, CZ05 — Severovýchod, CZ06 — Jihovýchod, CZ07 — Strední Morava, CZ08 — Moravskoslezsko; Latvia (LV00) and Estonia (EE00) are not subdivided into NUTS-2 regions.

Source: author's calculations based on the data from: Luxembourg, Eurostat, 2020, *Eurostat Database,* available at: https://ec.europa.eu/eurostat/data/database (accessed 25.07.2020).

Discussion

The technique that we have proposed helps refine estimations of the standard of living of households, and our calculations reveal a more even distribution of households' disposable income adjusted for mortgage and rent costs across the EU countries compared with the numbers at nominal prices and at PPP alone. Nevertheless, our computations are constrained by the statistical data available from the OECD and the Eurostat. In case some more detailed statistics become available, this method enables obtaining further refined calculations.

Firstly, the OECD provides the data on the share of mortgage and rent spending as an average for all the households from these two categories with no further elaboration on the size of families. Obviously, the income share spent on a mortgage or rent by single-person households can differ from that of multiple-person households with one child or more[25]. As this kind of data had not been yet provided, we used the same values for both households comprised of a single person and four persons.

Secondly, further differentiation of the Eurostat data at the NUTS-2 level by households' status (outright home ownership, housing rent and mortgage) will allow refining the calculations for regions of the EU-11 and the EU-15 countries. When we use the same adjusting coefficient for regions with higher and lower households' disposable income, the numbers are being adjusted more for the former, and less for the latter, as expected.

Thirdly, it would be interesting to compare the relative living standards in the EU countries for the households that rent social housing and those paying the market rent. In this article, we used the OECD indicator that incorporates both these categories of households. Though there is no standard definition of social housing yet neither at the EU level nor in several EU countries, social housing generally implies that vulnerable groups of people rent their dwellings at a reduced cost. This leads actually to closing some relative income gaps compared to wealthier households in a country[26].

Fourthly, it should be noted that housing-related expenditures other than mortgage or rent (electricity, water, gas, etc.) have increased in the past decades in real terms in the EU-11 countries and contributed considerably to the overall housing

[25] In Western European countries, residents with no children prefer to live in city centres, where total housing costs are often higher, and this can lead to an increasing portion of income spent on mortgage/rent payments. On the contrary, families with children tend to choose suburban areas, where housing costs are lower, and larger dwellings become more affordable (at the same time, transportation costs might rise).

[26] The share of social housing stock in the EU countries varies from 38% of the total housing stock in the Netherlands, 21% in Denmark, 20% in Austria and 17% in the United Kingdom to 11% in Finland and one to eight % in the EU-11 countries [Public Policies Towards Affordable Housing, 2019, *OECD Affordable Housing Database*, Paris, OECD,. available at: http://www.oecd.org/social/affordable-housing-database/housing-conditions/ (accessed 27.07.2020)].

cost burden[27] [56]. When the large portion of outright homeowners is yet taken into account, the total housing expenditures including mortgage/rent costs as well as electricity, water, gas and other fuel costs on average made up 25% of the final consumption expenditure of households in Czechia in 2017, 24% in Slovakia, 23% in Romania, 21% in Latvia and Poland, 20% in Bulgaria, 19% in Slovenia and Hungary, 18% in Estonia and 15% in Lithuania. Thus, improving the OECD statistics in terms of subdivision of the data into housing-related costs and mortgage/rent costs for different categories of households could further enhance estimations of the standard of living in the EU-11 and the EU-15 countries. In general, the Federation Housing Europe, which we mentioned above, identified in its 2019 report the rising share of housing costs in disposable income of less wealthy households in both the EU-11 countries and the EU-15 group as another negative factor for the social stability and housing affordability[28].

Private property restitution in the CEE countries that was actively implemented in the 1990s, notably in the Baltic states, Czechia, Slovakia and Slovenia, is another particular subject [57]. Aside from that, our analysis can be complemented by considering such a factor as housing quality, which is a topic for a special study associated more with the multi-faceted problem of the quality of life [58; 59]. The former socialist countries of the EU-11 traditionally rank behind the EU-15 countries by such parameters as the number of rooms and living space per capita, availability of sewerage[29], and housing overcrowding rates, as provided by the Eurostat and the OECD.

However, we should notice that there are/were slightly different housing quality criteria in the market and planned economies. In the socialist countries, the priority was given to the reliability of communal infrastructure including energy[30], water, gas supply and heating, durability and safety of housing structures, availability of children's playgrounds, kindergartens, comprehensive, music and other schools within walking distance, as well as to local green areas. At the same time, there were more cars per capita in the market economies, and therefore, on

[27] Housing Conditions, 2019, *OECD Affordable Housing Database*, Paris, OECD, available at: http://www.oecd.org/social/affordable-housing-database/housing-conditions/ (accessed 27.07.2020).

[28] The State of Housing in the EU 2019, 2019, *Housing Europe*, available at: https://www.housingeurope.eu/resource-1323/the-state-of-housing-in-the-eu-2019 (accessed 06.10.2020).

[29] Romania ranks the lowest, as 21% of households in the country with the income at 50% of the median equivalised disposable income or above did not have an exclusive flushing toilet in 2017. This number increases to 68% in the cohort of households with the income below 50% of the median equivalised disposable income [Housing Conditions, 2019, *OECD Affordable Housing Database*, Paris, OECD, available at: http://www.oecd.org/social/affordable-housing-database/housing-conditions/ (accessed 27.07.2020)].

[30] The official website of the European Commission contains a special webpage for the EU residents with tips on how to save energy, among which there is still such a recommendation as to replace single-glazed windows with double-glazed ones [available at: https://ec.europa.eu/clima/citizens/tips_en (accessed 06.10.2020)].

the one hand, households were more mobile there for dealing with their everyday issues but, on the other hand, they could bear higher time and transportation costs. In addition, in the Western cities and towns, leisure and outdoor activities are often concentrated around one central park and several secondary green space areas.

Likewise, at the beginning of the 1990s, multi-storey buildings constructed in the EU-11 countries during the planned economy were expected to experience a social decline soon. However, two or three decades later, the scholars underscored high social stability of this kind of housing [60; 61], *i.e.* its lower exposure to social degradation compared to the same type of housing in Western Europe. Moreover, a survey of residents in multi-storey buildings in several cities and towns of Poland revealed that 66% of respondents were happy with their current flats and did not plan to move to another place [60].

Moreover, the issue of indoor temperature during the cold season was unknown to most people in post-socialist countries, and only in the 2010s, it was put on the agenda in Western European countries primarily due to the launch of programmes aimed at improving energy efficiency [62]. Before that, the studies on this topic were carried out predominantly only in the United Kingdom[31]. As recent cross-country comparisons illustrated, there was no common standard in the European Union for indoor microclimate parameters [65]. Winter temperature limits in Western and Northern European countries varied from 18ºC in the Netherlands to 22ºC in Sweden., and a 6ºC to 8ºC difference in temperature in different rooms of the same flat or house was a normal situation[32] [66].

Hence, a proper comparison and an unbiased assessment of the quality of life in the EU-11 and the EU-15 warrants employing some criteria from the planned economy, which might complement well the standard analysis with the parameters typical for Western European states and deepen our understanding of peculiarities of the transition process in the CEE countries.

Main conclusions

1. Despite 30 years of market reforms, the influence among other things of a special price system inherited from the planned economy persisted in the former socialist countries, which became members of the European Union. As a result, the difference in single-person households' income level between the CEE and the EU-15 countries is reduced from 3.1 times when calculated at nominal prices to 1.8 times at purchasing power parity.

2. Not only the institutions from the planned economy such as individually-owned, cooperative and state housing, which became the private property of the majority of the EU-11 population, did mitigate the transition to a new economic

[31] The average temperature in houses/flats in the United Kingdom is 19.5 ºC during the cold season [63]. Moreover, usually, residents turn the heating on only in those rooms/areas where they currently are, while the whole heating system is off during the night [63; 64].

[32] In Western European countries, the intended temperature in living rooms is +20—21 °C, +16—17 °C in the bedroom, +18 °C in the kitchen, and + 24 °C in the bathroom [66].

system. The fact that 76% of households in the CEE countries are outright homeowners contributes to a further abatement of the standard of living disparities between the CEE countries and Western and Northern European states. In the latter, almost two-thirds of the population have a mortgage (30%) or pay rent (35%) spending on average 17% and 23% of their disposable income respectively.

3. Consequently, the mortgage market in the EU-15 countries is well-developed, but at the same time mortgage burden is high reaching 145—188% of households' disposable income in five countries. On the contrary, this indicator does not exceed on average 30% in the EU-11 states.

4. The technique that we proposed in this article enables incorporating in one indicator both the income level and households' spending patterns, which depend on the home ownership structure, and ensures a more accurate assessment of living standards in the countries considered. According to our calculations, there is only a 1.59-times difference between net earnings of single-person households in the EU-11 and the EU-15 countries at PPP adjusted for mortgage and rent spending. This indicator for the most advanced country in the EU-28 (Luxembourg) is 2.48 times higher than that of the most lagging one (Bulgaria) in comparison to a threefold difference when computed at PPP only.

5. Our computations evidence that the standard of living in the EU-11 countries reached 68% of the EU-28 average in 2018 compared to 61% calculated at PPP only. Due to relatively lower mortgage and housing rent expenditures, the standard of living in Romania for single-person households is 7.9% closer to the EU-28 average than in calculations at PPP alone. It is also closer to the European Union average by 7.6% in Estonia, by 7.5% in Croatia, by 7.4% in Lithuania, by 7.2% in Poland, by 6.6% in Czechia, by 6.2% in Slovakia, Latvia and Bulgaria, by 6.0% in Hungary, and by 5.7% in Slovenia.

6. Our calculations of the standard of living differences between the EU-11 and the EU-15 country groups turn out to be less considerable than disparities between the richest and poorest NUTS-2 regions in the United Kingdom, Romania, Bulgaria, Italy, Slovakia, Poland and Spain. Additionally, the living standards in the national capital regions of Czechia, Poland, Slovakia and Romania exceed the EU-28 average. When computed with our adjustment for mortgage and rent spending, the capital region of Lithuania is also found in this list.

7. The rising prices for electricity, water and gas supply negatively affect living standards in the CEE countries. The households that have a mortgage are on average the wealthiest ones, while the well-being of households with outright home ownership is usually close to the national average. The households renting their dwellings are at highest risk of possible poverty.

References

1. Åslund, A. 2012, *How Capitalism Was Built: The Transformation of Central and Eastern Europe, Russia, the Caucasus, and Central Asia*, 2nd ed., New York, Cambridge University Press.

2. Kornai, J. 2006, The Great Transformation of Central and Eastern Europe: success and disillusionment, *Rossiya i sovremennyj mir* [Russian and the Contemporary World], no. 2, p. 7—47 (In Russ.)

3. Brien, S. 2019, Central and Eastern Europe Prosperity Report: the Lived Experience, *Legatum Institute*, available at: https://li.com/wp-content/uploads/2019/10/2019-Central-and-Eastern-Europe-Prosperity-Report.pdf (accessed 30.07.2020).

4. Svejnar, J. 2002, Transition Economies: Performance and Challenges, *Journal of Economic Perspectives*, vol. 16. no. 1, p. 3—28.

5. Kolodko, G. W. 2000, *From Shock to Therapy: the Political Economy of Postsocialist Transformation*, Oxford, Oxford University Press.

6. Podkaminer, L. 2015, Central and Eastern Europe: Trapped in Integration? *Acta Oeconomica*, no. 65, S1, p. 83—106.

7. Simai, M. 2006, Poverty and Inequality in Eastern Europe and the CIS Transition Countries, *DESA Working Paper,* no. 17, 25 p.

8. Struyk, R. (ed.) 1996, *Economic Restructuring of the Former Soviet Bloc: The Case of Housing*, Washington, DC, Urban Institute Press.

9. Clapham, D., Hegedüs, J., Kintrea, K., Tosics, I., Kay, H. (eds.) 1996, *Housing Privatization in Eastern Europe*, Westport, CT and London, Greenwood Press.

10. Glinkina, S. P., Kulikova, N. V., Sinitsina, I. S. 2014, *Strany Tsentral'no-Vostochnoi Evropy: evrointegratsiya i ekonomicheskii rost* [Central and Eastern European countries: European integration and economic growth], Moscow, IE RAS (In Russ.).

11. Kudrov, V. M. 2006, Market transformation in the countries of Central and Eastern Europe: accumulated experience, *Obshchestvo i ekonomika* [Society and Economy], no. 5, p. 122—167 (In Russ.)

12. Shishelina, L. N. 2019, Some results of three decades of transformation in Central Europe. *Sovremennaya Evropa* [Contemporary Europe], no. 6, p. 48—56. doi: http://dx.doi.org/10.15211/soveurope620194856 (In Russ.)

13. Gromyko, A. A., Fedorov, V. P. (eds.) 2019, *Evropa mezhdu trekh okeanov* [Europe between three oceans], Moscow, IE RAS (In Russ.).

14. Orlik, I. I. 2009, Central and Eastern Europe: from COMECON to European Union, *Novaya i novejshaya istoriya* [Modern and Contemporary History], no. 2, p. 3—20 (In Russ.).

15. Umerova, I. A. 2009, Regionalization in terms of globalization: competitiveness factors of Central and East European countries, *RUDN Journal of Economics*, no. 1, p. 52—59 (In Russ.).

16. Knyazev, Yu. K., Kulikova, N. V. 2013, Debt burden of the countries of Central and Eastern Europe against the backdrop of the global debt crisis, *Mir peremen* [The World of Transformations], no. 2, p. 71—88 (In Russ.).

17. Kuznetsov, A. V., Khesin, Ye. S. (eds.) 2013, *Ekonomika stran ES posle vvedeniya evro: ot ejforii 1999 g. do dolgovogo krizisa 2010-kh godov* [EU member states economies after the introduction of the euro: from euphoria of 1999 to the debt crisis of the 2010s], Moscow, IMEMO RAS (In Russ.).

18. Kulikova, N. V. (ed.) 2014, *Tsentral'no-Vostochnaya Evropa: iz krizisa v depressiyu?* [Central and Eastern Europe: from crisis to depression?], Moscow, Institute of Economics, RAS (In Russ.).

19. Bazhan, A. I. 2019, Economic Growth in the EU and Visegrad group, *Sovremennaya Evropa* [Contemporary Europe], no. 7, p. 72—81. doi: http://dx.doi.org/10.15211/soveurope720197281 (In Russ.).

20. Chetverikova, A. S. 2020, Evolution of the Investment Cooperation between the Countries of the Visegrad Group and Russia. *Sovremennaya Evropa* [Contemporary Europe], no. 2, p. 90—99. doi: http://dx.doi.org/10.15211/soveurope22020909 (In Russ.).

21. Korovitsyna, N. V. 2019, *Kak zhivut tsentral'noevropeitsy posle «barkhatnykh» revolyutsii. Polyaki, chekhi, slovaki* [How do the Eastern Europeans live after velvet revolutions], Moscow, IE RAS (In Russ.).

22. Gabarta, A. A. 2017, Social and economic model of Central European countries, *Sovremennaya Evropa* [Contemporary Europe], no. 7, p. 104—113 (In Russ.).

23. Drynochkin, A. V. 2015, Problems of economic evaluation of the transformation of the Visegrad countries, *Sovremennaya Evropa* [Contemporary Europe], no. 6, p. 50—59. doi: http://dx.doi.org/10.15211/soveurope620155059 (In Russ.).

24. Druzhinin, P. V., Prokopyev, E. A. 2018, An Assessment of the Economic Performance of the EU Baltic Region States, *Balt. Reg.*, no. 1, p. 4—18. doi: http://dx.doi.org/10.5922/2079-8555-2018-1-1.

25. Vorotnikov, V. V. 2019, Euro-Atlantic Integration of the Baltic States: Some Results, *Sovremennaya Evropa* [Contemporary Europe], no. 7, p. 124—135. doi: http://dx.doi.org/10.15211/soveurope72019124135 (In Russ.).

26. Busygina, I. M., Klimovich, S. A. 2017, Coalition Within a Coalition: The Baltics in the European Union, *Balt. Reg.*, no. 1, p. 4—17. doi: http://dx.doi.org/10.5922/2079-8555-2017-1-1.

27. Mezhevich, N. M. 2015, The Baltic economic model: some results of the 1990—2015 transformations, *Balt. Reg.*, no. 4, p. 20—37. doi: http://dx.doi.org/10.5922/2079-8555-2015-4-2.

28. Kondratyeva, N. B. 2020, Baltic States: in the Middle Income Trap, *Scientific and Analytical Herald of the Institute of Europe RAS*, no. 1, p. 78—85. doi: http://dx.doi.org/10.15211/vestnikieran120207885 (In Russ.).

29. Sviridova, M. V. 2008, Transformation processes in Russia and the states of Central-Eastern Europe in 1990—2000, *Regional'nye issledovaniya* [Regional Studies], no. 5, p. 57—70 (In Russ.).

30. Klemeshev, A. P., Fedorov, G. M., Zverev, Yu. M. 2011, On the potential and opportunities for cooperation between the Baltics in the field of innovations, *Balt, Reg.*, no. 3, p. 76—84. doi: http://dx.doi.org/10.5922/2079-8555-2011-3-9.

31. Berend. I. T. 2007, Social Shock in Transforming Central and Eastern Europe, *Communist and Post-Communist Studies*, vol. 40, no. 3, p. 269—280.

32. Berglöf, E., Korniyenko, Ye., Plekhanov, A., Zettelmeyer, J. 2009, Understanding the crisis in emerging Europe, *Public Policy Review*, vol. 6, no. 6, p. 985—1008.

33. Milanovic, B. 1998, *Income, Inequality and Poverty during the Transition from Planned to Market Economy*, Washington, DC, the World Bank.

34. Karmowska, G., Marciniak, M. 2015, Spatial Diversification of Living Standards in the Former Communist Countries of Central and Eastern Europe and the Balkans, *Comparative Economic Research*, vol. 18, no. 4, p. 123—138.

35. Kotulewicz-Wisińska, K. 2019, Middle class in modern Poland, *Sovremennaya Evropa* [Contemporary Europe], no. 7, p. 59—71. doi: http://dx.doi.org/10.15211/soveurope720195971 (In Russ.).

36. Sanfey, P., Teksoz, U. 2007, Does Transition Make You Happy? *Economics of Transition and Institutional Changes*, vol. 15, no. 4, p. 707—731. doi: http://dx.doi.org/10.1111/j.1468-0351.2007.00309.x.

37. Djankov, S., Nikolova, E., Zilinsky, J. 2016, The Happiness Gap in Eastern Europe, *Journal of Comparative Economics*, vol. 44, no. 1, p. 108—124. doi: http://dx.doi.org/10.1016/j.jce.2015.10.006.

38. Åslund, A. 2002, *Building Capitalism: the Transformation of the Former Soviet Bloc*, Cambridge, Cambridge University Press.

39. Kolodko, G. W. (ed.) 2005, *The Polish Miracle: Lessons for the Emerging Markets*, Aldershot and Burlington, Ashgate.

40. Estrin, S., Kolodko, G. W., Uvalic, M. (eds.) 2007, *Transition and Beyond: Essays in Honor of Mario Nuti*, Basingstoke and New York, Palgrave Macmillan.

41. Noelke, C. 2008, Social Protection, Inequality and Labor Market Risks in Central and Eastern Europe. In: Kogan, I., Gebel, M., Noelke, C. (eds.) *Europe Enlarged: a Handbook of Education, Labour and Welfare Regimes in Central and Eastern Europe*, Bristol, Policy Press, p. 63—96.

42. Lokshin, M., Ravallion, M. 2000, Short-Lived Shocks with Long-Lived Impacts? Household Income Dynamics in a Transition Economy. In: *Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia: Background Papers*, Washington, DC IBRD, September 2000, pp. III-1 — III-32.

43. Kolodko, G. W., Gotz-Kozierkiewicz, D., Skrzeszewska-Paczek, E. 1992, *Hyperinflation and Stabilization in Postsocialist Economies*, Norwell and Dordrecht: Kluwer Academic Publishers Group.

44. Blanchard, O., Commander, S., Coricelli, F. 1995, Unemployment and Restructuring in Eastern Europe and Russia. In: Commander, S., Coricelli, F. (eds.) *Unemployment, Restructuring and the Labor Market in Eastern Europe and Russia*, EDI Development Studies, Washington, DC, the World Bank, p. 289—330.

45. Förster, M., Jesuit, D., Smeeding, T. 2005, Regional Poverty and Income Inequality in Central and Eastern Europe: Evidence from the Luxembourg Income Study. In: Kanbur. R., Venables. A.J. (eds.) *Spatial Inequality and Development,* Oxford and New York, Oxford University Press.

46. Heyns, B. 2005, Emerging Inequalities in Central and Eastern Europe, *Annual Review of Sociology*, no. 31, p. 163—197.

47. Novokmet, F. 2017, *Between communism and capitalism: essays on the evolution of income and wealth inequality in Eastern Europe 1890—2015 (Czech Republic, Poland, Bulgaria, Croatia, Slovenia, Russia),* PhD Thesis, Prepared and defended at Paris School of Economics on December 11, 2017.

48. André, Ch., Chalaux, T. 2018, Building a typology of housing systems to inform policies in OECD and EU member States, *Economie et Statistique / Economics and Statistics*, no. 500—501—502, p. 13—36. doi: https://doi.org/110.24187/ecostat.2018.500t.1943.

49. De Soto, H. 2000, *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*, New York, Basic Books and London, Bantam Press/Random House.

50. Novokmet, F., Piketty, T. Zucman G. 2018, From Soviets to oligarchs: inequality and property in Russia 1905—2016, *Journal of Economic Inequality*, no. 16, p. 189—223. doi: https://doi.org/10.1007/s10888-018-9383-0.

51. Kapeliushnikov, R. I. 2020, Piketty's Team on Inequality in Russia: A Collection of Statistical Artifacts, *Voprosy ekonomiki*, no. 4, p. 67—106. doi: https://doi.org/10.32609/0042—8736—2020-4-67-106 (In Russ.).

52. Lipets, Yu. G. 2006, An external factor of regional transformation — price environment of region, country, group of countries with the same price system. In Shuper, V. A. (ed.) *VI Socrates Conference 'The post-industrial transformation of the social space of Russia'*, Moscow, Eslan, p. 115—120 (In Russ.).

53. Pilipenko, I. V. 2018, The dynamics of economic development and the evolution of main foreign trade directions of post-Soviet republics, *Ekonomika i upravlenie: problemy, resheniya* [Economy and Governance: Problems, Solutions], no. 12, vol. 9 (84), p. 12—38 (In Russ.).

54. MacDonald, R., Wójcik, C. 2004, Catching up: The role of demand, supply and regulated price effects on the real exchange rates of four accession countries, *Economics of Transition*, no. 12 (1), p. 153—179.

55. Förster, H. (Hrsg.) 2008, *Regionalisierung, Regionalismus und Regionalpolitik in Mittelost- und Südosteuropa*, Südosteuropa-Jahrbuch 35, München, Sagner.

56. Karpinska, L., Śmiech, S. 2020, Invisible energy poverty? Analysing housing costs in Central and Eastern Europe, *Energy Research & Social Science*, no. 70. doi: https://doi.org/10.1016/j.erss.2020.101670.

57. Blacksell, M., Born, K.M. 2002, Private Property Restitution: The Geographical Consequences of Official Government Policies in Central and Eastern Europe, *The Geographical Journal*, vol. 168, no. 2, p. 178—190.

58. Zubarevich, N. V. 2003, *The social development of regions of Russia: problems and tendencies of the transition period*, Moscow, URSS (In Russ.).

59. Puzanov, A. S., Kosareva, N. B., Polidi, T. D., Tumanov, A. A. 2012, Analysis of changes in housing availability and opportunities for housing improvement in the period of transition to a market economy, *Living Standards of the Population in the Regions of Russia*, no. 1 (167), p. 29—41 (In Russ.).

60. Gorczyca, K. 2016, The Social Transformation of Large Housing Estates in Poland at the Turn of the 21st Century, *Sociologický časopis/Czech Sociological Review*, vol. 52, no. 6, p. 861—892. doi: https://doi.org/10.13060/00380288.2016.52.6.289.

61. Gentile, M., Marcińczak, S. 2014, Housing inequalities in Bucharest: Shallow changes in hesitant transition, *GeoJournal*, vol. 79, no. 4, p. 449—465. doi: https://doi.org/10.1007/s10708-014-9530-5.

62. Vávra, J., Peters, V., Lapka, M., Craig, T., Cudlínová, E. 2015, What Shapes the Temperatures of Living Rooms in Three European Regions? *Sociální studia / Social Studies*, vol. 12, no. 3, p. 135—158.

63. Huebner, G. M., McMichael, M., Shipworth, D., Shipworth, M., Durand-Daubin, M., Summerfield, A. 2013, Heating patterns in English homes: Comparing results from a national survey against common model assumptions, *Building and Environment*, December, no. 70, p. 298—305.

64. Tweed, Ch., Dixon, D., Hinton, E., Bickerstaff, K. 2014, Thermal comfort practices in the home and their impact on energy consumption, *Architectural Engineering and Design Management*, vol. 10, no. 1—2, p. 1—24. doi: https://doi.org/10.1080/17452007.2013.837243.

65. Brelih, N. 2013, Thermal and acoustic comfort requirements in European standards and national regulations, *REHVA (Federation of European Heating, Ventilation and Air Conditioning Associations) Journal*, no. 2, p. 16—109.

66. Kemna, R. 2014, *Average EU building heat load for HVAC equipment: final report*, Prepared for the European Commission, Delft, Van Holsteijn en Kemna B. V. (VHK).

The author

Dr Igor V. Pilipenko, Director, the Institute for Competitiveness and Integration (RICI), Russia.

E-mail: i-pilipenko@yandex.ru

https://orcid.org/0000-0002-8108-7253