

DÁVID KARÁCSONYI^{a)} – MEZENTSEV KOSTYANTYN^{b)}
– GRYGORII PIDGRUSNYI^{c)} – ZOLTÁN DÖVÉNYI^{d)}

From Global Economic Crisis to Armed Crisis: Changing Regional Inequalities in Ukraine*

Abstract

Despite the new geopolitical situation caused by the revolution at Maidan in February 2014, little is known about the real economics of Ukraine and its internal spatial disparities. In the survey of regional disparities, data on incomes, employment and unemployment were involved and completed by those on migration and age structure of the population. The spectrum of available data at rayon level is not particularly broad, but this is counterbalanced by the ca. five hundred territorial units that provide a minute picture of the inequalities. According to the classic view, the spatial pattern of economic development is opposite to the Central European west to east slope. In Ukraine, Eastern regions are not more developed as a whole but they accommodate more developed large urban centres. Spatial differences grew most rapidly during the period of economic decline (1990–2000). However, these disparities were mitigated during the two years following the global financial crisis as the latter mainly affected the large urban centres of the economy. Conversely, the Donets Basin as a whole was highly exposed to the effects of these crises owing to its outdated industrial structure (coal mining, iron and steel industry). This led to a rearrangement in the ranking of the east Ukrainian regions based on GDP per capita: Dnipropetrovs'k overtook Donets'k, and the Dnieper Region (including Zaporizhzhia) has a higher output per capita than Donbas. A significant part of the productive capacities and incomes are found in the Donbas, an area hit hard by the fighting; their loss would further deteriorate the state of the country's economy. The fighting in the Donbas that did by far the greatest harm to the economy among the post-Soviet conflicts. It happened in a period when Ukraine, after the transformation crisis, had been on the path of growth for more than one decade. Concerning population number, area and economic weight, the Donbas exceeds Transnistria or Karabakh by an order of magnitude.

Keywords: Ukraine, crisis, separatism, regional inequalities, rayon level.

a) HAS, Research Centre for Astronomy and Earth Sciences, Geographical Institute, H-1112, Budapest, Budaörsi str. 45., Hungary. E-mail: karacsonyidavid@gmail.com

b) Department of Economic and Social Geography, Faculty of Geography, Taras Shevchenko National University of Kyiv, 01601 Kyiv, Prosp. Akad. Glushkova, 2, Ukraine. E-mail: k_mez@ukr.net

c) Institute of Geography, National Academy of Science of Ukraine, 01034 Kyiv, Ul. Volodymyrska, 44, Ukraine. E-mail: pidgrush@meta.ua

d) University of Pécs, Institute of Geography, H-7624 Pécs, Ifjúság útja 6., Hungary. E-mail: dovenyiz@gamma.ttk.pte.hu

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Introduction

The European Union merely found itself facing a new challenge when the new government of Ukraine, formed in February 2014, announced its willingness to accept the associated membership offered by the organization. The Russian reaction, which took the western world by surprise, had driven Ukraine – hitherto balancing between the EU and Common Economic Space dominated by the Russian Federation – into a stalemate. As the conflict deepened, the EU was forced to change its policy toward Ukraine. It had to commit to integration in response to the country's new leadership, which was now urging them to do so; a great responsibility for both economies. The EU's intention is to integrate a country of significant territory and a population of 45 million, whilst combating a number of economic issues. Whereas, Ukraine will place its centuries-old economic and cultural relations with Russia on an entirely new basis. The question marks only kept on multiplying in 2014, when politics seemed to neglect economic realities.

Despite the new geopolitical situation, little is known about the real economics of Ukraine and its internal spatial disparities. After overcoming the transformation crisis of the 1990s, the country produced spectacular annual GDP growth (5–10%) in the first half of the 2000s (official data from the State Statistics Service of Ukraine). This development has slowed since 2005 and eventually was broken by the global crisis in 2008. Although GDP recovered after the drastic (15%) drop of 2009, and showed 3–5% increase in 2010–11, hardly any growth was recorded in 2012–13. The stability of the state economy collapsed, debts rocketed, and the country otherwise strangled by corruption was forced to take out an IMF loan. Simultaneously, the bitter fighting between the Orange and Russia-oriented political elites not only hampered internal socio-economic reforms but emphasised the east–west spatial division of the country ever more dramatically. The events in February 2014, initially brought about a western–nationalistic turn in Kyiv and in the west of the country; this was followed by separatist riots in the east that enjoyed political and military support from Russia. By March, the conflict escalated to an international level. The economic problems of Ukraine thus became disguised by the (civil) war and the Russian intervention in the Crimea and east Ukraine.

The historical and cultural background of the east–west division within the country was highlighted in a previous study (Karácsonyi et al. 2014). Although an analysis of the conflict (Crimea, Donets Basin) is not included here, nevertheless, it might be important to raise the following questions: Does this division also appear in the level of economic development; Have differences in the level of regional development played their part in deepening the economic and then the political crisis, or was it the conflict that had a strong effect on regional disparities; and in general, how did the global crisis exacerbate the inequalities already existing in Ukraine?

Due to the significance of the country, geographers and economists in Ukraine and abroad have dealt with socio-economic conditions extensively (Åslund 2005 and 2008, Balabanov et al. 2003, Mrinska 2004, Van Zon et al. 1998, Van Zon 2001). A number of researchers emphasized that Ukraine inherited essential regional disparities from the Soviet period which were strengthened after 1990 (Mykhnenko–Swain 2010, Shablii 2001, Libanova et al. 2012). The adverse effect of the regional asymmetry and east-west dichotomy in Ukraine significantly deepened during 1990s (Gukalova 2009, Skryzhevsk

2008). Mykhnenko and Swain argued that the predominance of centripetal over centrifugal drivers of regional development explains the persistence and divergence of the country's space-economy (Mykhnenko–Swain 2010). Zubarevich showed that the economic inequality of regions in terms of GDP per capita increased until 2008. This was caused by the weakness of the Ukrainian state with a financial shortfall for its redistribution policy (Zubarevich 2010). Lane stressed on the different responses of the CIS and New EU member countries to the financial and economic crisis of 2007 onwards. The firsts were relatively less dependent on, and less integrated into the world financial system. Consequently, direct contagion from the global financial crisis, although significant, had less impact on them. Future economic scenarios for Russia, Belarus and Ukraine, involve not only exchange with the world system, but greater domestic development (Lane 2011). Mezentsev, Pidgrushnyi and Mezentseva focused on economic and social factors of the regional inequalities in Ukraine and the multi-layered character of the socio-spatial polarization (Mezentsev–Pidgrushnyi–Mezentseva 2014). More recently, OECD (2014) published a lengthy report on the inequalities in the country.

However, as a rule, these studies are vague in a spatial sense as they focus on the general aspects of politics and economics; there are also problems with databases suitable for territorial analyses. Taking into account that an average oblast in Ukraine corresponds to the EU NUTS-2 level size, it becomes obvious that only very vague, highly generalised regional trends could be deduced from the survey at this level. It compares to Germany being analysed at the level of Länder. Moreover, two of the 27 entities, notably Kyiv and Sevastopol' are not regions but national-level subordinated municipalities. This leads to a high dispersion of the resulting values with respect to areas, population numbers or incomes. Even in possession of reliable data at county (oblast) level, only a very general picture can be obtained about the disparities.

Therefore, this resolution should be refined with the involvement of district/rayon data. Such detailed analyses were carried out by Baranovsky (2007, 2009, 2010). Economic data at rayon level on a national scale have been available since the early 2000s. The narrow spectrum of the data is counterbalanced by the ca. five hundred territorial units providing a minute picture of the inequalities. In addition, due to the higher number of elements, a broader scale of methods can be applied to the regional analyses. For the sake of comparison: the area of these rayons is still more than twice the size of the Hungarian statistical (micro-)regions (LAU-1).

Rayon level database – a closer approach

In the survey of regional disparities, data on the incomes, employment and unemployment were involved, completed by those on migration and age structure of the population. These data (in a unified compilation of topics) are available at the rayon level in the statistical yearbooks of oblasts. There are no data on the economy at a higher spatial resolution (by settlement) or a normalized spatial database similar to T-star (of the Hungarian Central Statistical Office) or EUROSTAT. Consequently, the authors had to produce one. Recently, there were attempts in Ukraine to publish demography data in an electronic database but the indicators are meagre, and it only includes the last two years of data.

For the sake of comparability, a spatial database was established that eliminated the administrative changes over the recent past (668 rayons in 2000 and 674 rayons in 2012). The number of rayons is 674 (2014), but of these, 184 are urban settlements of rayon status, i.e. enclaves within rayons (city municipalities of regional /i.e. oblast/ significance). Their data had to be aggregated with those of the enclosing rayon to reach an adequate dispersion of spatial extension (Karácsonyi 2010). In the course of the aggregation, the weighted average wages were accepted where the number of the employed persons represented the weight. After aggregation in the estimation of the unemployment rate, the weight was again the number employed. The ultimate database contained 501 entities of the rayon level data, showing much lower dispersions in comparison with the initial dataset, both in real ($V_{674}=68,3\%$; $V_{501}=39,3\%$) and population ($V_{674}=213,7\%$; $V_{501}=203,9\%$) dimensions (Karácsonyi 2010).

There exist two interpretations of what comprises employment in Ukraine. In a strict sense, this group consists of wage and salary earners or employees (payroll employees), but small enterprises and private entrepreneurs are excluded from the dataset. These people are employed in factories (industry), on farms (agriculture), in offices (state administration) or in private firms (services), and receive a regular (monthly) salary for their work. Their number at county (oblast) and district (rayon) levels is published in statistics; even average nominal wages are determined and calculated from these data. Only part of the total volume of incomes appears and represents per capita incomes indirectly. In a wider sense, small entrepreneurs and persons pursuing agricultural activities are also included among the employed (as well as employees proper). In the early 1990s, more than 90% of workers were wage and salary earners (overwhelmingly employed by the state) i.e. factory workers, office employees or *kolkhoz* peasants. During the period of economic transformation, their ratio almost halved (55% in 2003), and they were replaced by small entrepreneurs and individual farmers (under economic pressure). The process of the decrease in wage and salary earners culminated in 2004, with a slow growth in their number in 2005–2006.

The ratio of those working in small enterprises exceeded 50%, which means that about half of the employed persons do not appear in rayon-level data. The number of people working for small businesses grew by 35% between 2000 and 2013 and is estimated at 10 million (Table 1). Their share is the highest in Transcarpathia, however, since 2003–2004, they represent ca. half of employment in the western part of the country. In contrast, in the eastern Donetsk oblast they have the lowest share, which can be explained by the high dependence of local employment on big enterprises and the minor role of private initiatives. The average wages of people working in small businesses lag behind those of the other employees, thus despite their high ratio, they do not have a significant impact on the regional income disparities. Concerning employment rates, only approximate figures can be deduced at rayon level.

Table 1

Employment in Ukraine

Year	Payroll employees	Employees in small enterprises (1000)	Ratio of total employment (%)
1995	18 252	5 473	23
2000	13 678	7 591	35.7
2001	12 931	8 085	38.5
2002	12 235	9 144	42.8
2003	11 711	9 738	45.4
2004	11 316	8 980	44.2
2005	11 388	9 292	44.9
2006	11 433	9 297	44.8
2007	11 413	9 491	45.4
2008	11 390	9 582	45.7
2009	10 653	9 538	47.2
2010	10 604	9 662	47.7
2011	10 556	9 768	48.1
2012	10 589	9 765	48.0
2013	10 164	10 240	50.2

Source: State Statistics Service of Ukraine.

The real scale of unemployment could only be deduced from the contraction of the number of the employed. These data – like anywhere else – can be obtained by two methods: by using ILO methodology and from the number of registered unemployed at the State Service of Employment. Nowhere in the world do these data coincide, but in Ukraine they differ considerably. The ratio of jobless according to ILO (7.4% in 2013) is more than twice as high as that calculated from the registered unemployed (1.8% in 2013). It might be taken for granted that real parameters of unemployment are closer to the figures obtained through ILO methodology.

Rates calculated from registered unemployment, and a database of the number of wage and salary earners and their average nominal wages broken down by rayon are made available for public use. The rigid regulation of registered unemployment hardly represents actual unemployment, but it is likely to reflect spatial disparities. An attempt was made to calculate disparities in the employment ratio and per capita incomes at rayon level from the raw indicator values, i.e. from average nominal wages and number of employees (Table 2). For calculating the actual employment ratio, the population in working age (15–64 years) was only available for 2012. Therefore, in the previous years, the number of employees was related to the total population, and so was influenced by the age structure.

Table 2

Absolute and specific variables of the labour market in Ukraine by rayon

Absolute variables	Source
Total number of employed	Unpublished by rayon
Number of employees	Published by rayon
Number of unemployed	Unpublished by rayon
Total volume of income of all employed	Unpublished by rayon
Total volume of wages	Calculated from average wages multiplied by the number of employees
Specific variables	Source
Average nominal wages of employees	Published by rayon
Unemployment ratio	Published by rayon
Employment ratio	Calculated from number of employees compared to the total population (2003-2012)/working age population (2012)
Incomes per capita	Calculated from the total volume of wages to the population

Source: own compilation.

In the course of the analysis, beyond the mapping of the data and more simple descriptive statistics, other indicators of disparities (for example concentration rate, Hoover Index, relative dispersion) were deployed as well. The survey had to be started by filtering out errors in the rayon-level database. Along with typist's literal mistakes, there were cases when individual values could not be explained by socio-economic reasons. If the error was obvious, estimations came to the fore. However, Derzhkomstat has tended to modify data on unemployment, and the sets published at a later date differed from the initial one; in these cases only long-term trends can be observed. Otherwise data on the labour market provide a rather mosaic picture about the country as they depend on the topography of large urban centres, but the dynamics of several years make certain regional processes discernible.

Spatial disparities in the economy

Demographic background of the economy – “worker” and “entrepreneur” Ukraine

Since the proclamation of independence, Ukraine – along with the economic crisis – has also had to face demographic decline (Skryzhevska–Karácsonyi 2012). It threatens to have a considerable detrimental effect on society, the economy and human resources respectively. Between the two previous censuses (1989 and 2001), the total population of Ukraine contracted by 7.5% i.e. by 3.8 million persons. Between 2001 and 2014, it shrank by a further 3 million and was estimated to have been 45.2 million in 2014. Despite a considerable outmigration from the country, the contraction is mainly caused by a natural decline (Skryzhevska–Karácsonyi 2012).

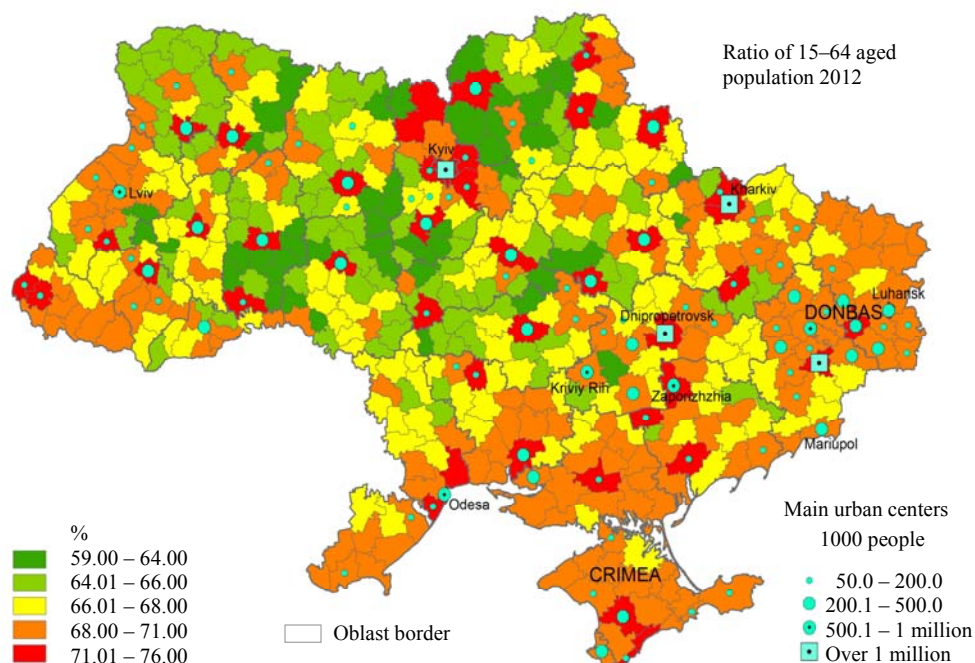
The ageing index (elder-child ratio) points to an unfavourable demography pattern that accelerated particularly between 2004 and 2007. It means that more elderly people have lived in the country than children since 2004. Due to a persistent growth in the birth rate

in the 2000s, there has been an increase in the ratio of those in the child age group. The death rate has shown a downward trend, but the natural decrease still accounts for an annual 3–4%.

Based on the natural change in the population, the country's territory can be divided into clearly separable regions, also reflected by their age structure. The ratio of the working-age population is the lowest in the central rural areas owing to the rapid ageing (Figure 1), whereas, it is the highest in the urban agglomerations. Within the rural population, the ratio of elderly people reaches its maximum in the north-eastern part of the country. In the eastern Donbas, the share of the elderly is considerable, even in the urban population. Although, the ageing is not so advanced as in the north-east, where there has been a natural decrease since the 1970s. The western regions (the Carpathians and Volhynia) are characterized by a more balanced, younger age structure and high natural increase.

Figure 1

Working age population in Ukraine, 2012



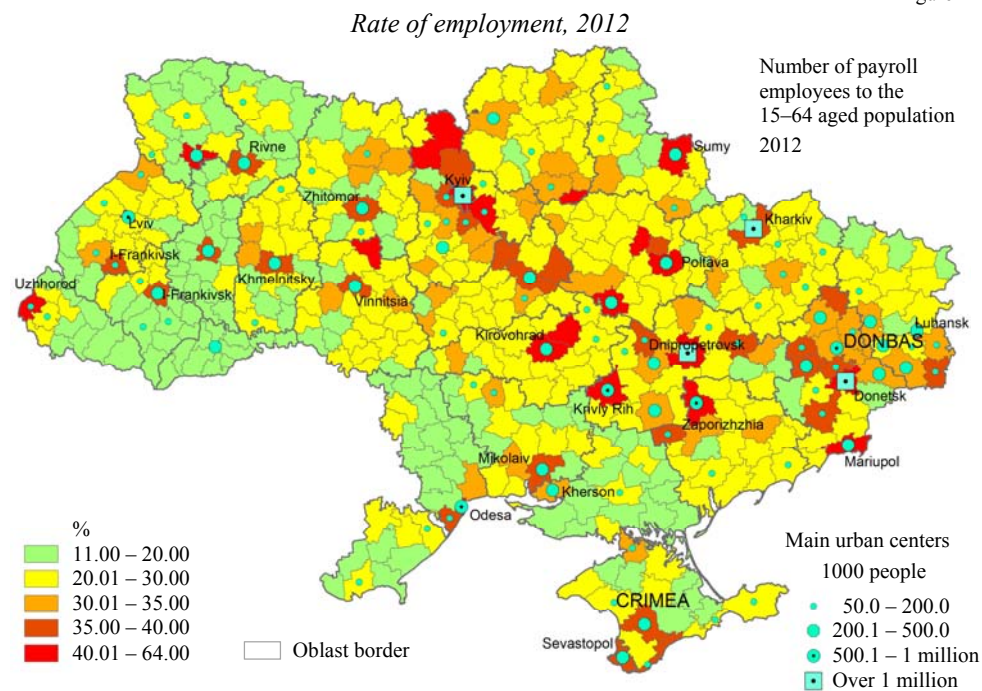
Source: own compilation.

Following the turn of the millennium, the economically active segment of the age group between 15–70 years included more than 22 million people, whereas the population of working age (females between 15 and 54, males between 15 and 59 years) numbered 20.5 m. These figures represent 62% and 71% activity rates, respectively. It should be noted that the data obtained by different methods might vary considerably. For instance, the census of 2001 put working-age economic activity at a mere 65.5%. Economic activity has been on

the rise since 2004 (with the exception of 2009), despite that stemming from the shrinking population, it dropped below 22 m by 2013 among people aged between 15 and 70 years.

The overwhelming part of the economically active population consists of 20.4 m employed people as of 2012. The 1990s saw a dramatic decrease, that accelerated between 1995 and 2000, of 3.5 m people. Since 2001, some positive changes seem to have occurred, i.e. there has been a stabilising trend and even growth in the number of employed. The global economic crisis of 2008 had a negative impact on employment, and to a large extent, it was not able to reach 2005 levels even in 2013. The highest employment rate figures for wage and salary earners are found in the environs of large cities, with the trend rising eastward (Figure 2). These data, however, do not include those private entrepreneurs and small enterprises, which could add a lot to the figures in the western part of the country and urban regions.

Figure 2

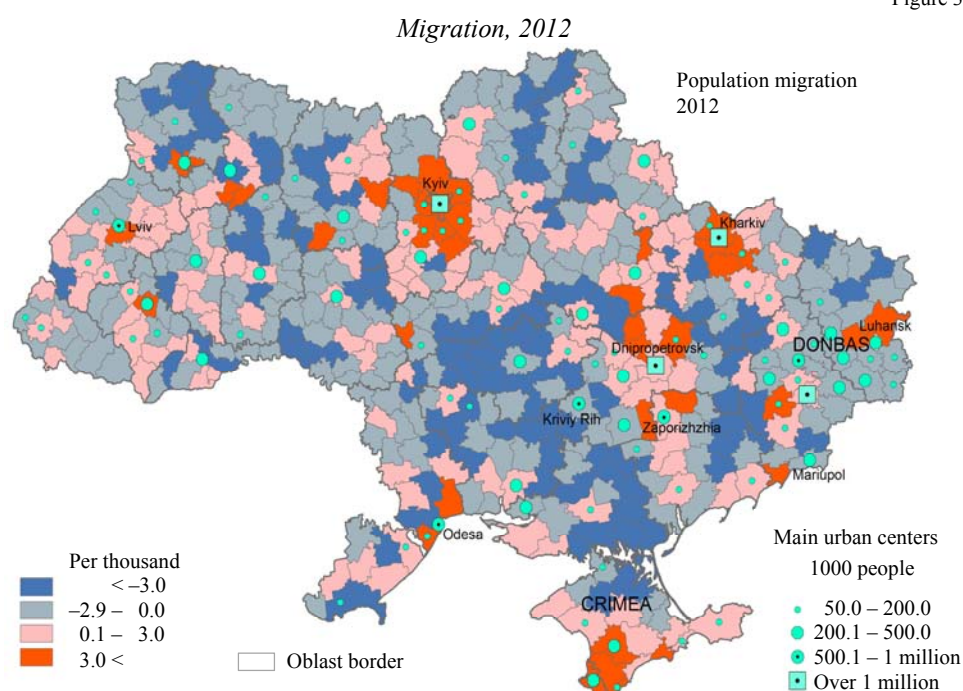


Source: own compilation.

The level of economic development is also reflected in migration movement (Massey 2004) as people move towards regions offering the most favourable economic conditions. Regional wage differences play a decisive part in the spatial distribution of migrants (Hatton, Williamson 2005). Urban centres are also the primary target areas in Ukraine, where a broad spectrum of labour opportunities is available. The Kyiv metropolitan region receives the largest number of migrants, and the eastern industrial agglomerations are attractive, except for the two main centres of Luhans'k and Donets'k hit by outmigration. Despite the inward movement, for urban centres in the east (Kharkiv, Dnieper Region), in-

migration is unable to counterbalance the natural decrease. Alongside migration from the countryside to urban settlements as a characteristic feature of the Soviet era, there appeared suburbanization on the urban fringe and desurbanization in rural areas. Along with the necessity (not welfare) outflow, the marine coastal zones located relatively close to big cities are becoming the primary target areas. Odesa region or the southern seaside of the Crimea on the Black Sea might become the Ukrainian sunbelt in the future, however, the future of the Crimea is now a question.

Figure 3



Source: own compilation.

The role of the regions in Ukraine in international labour migration varies significantly. Western areas of the country are a major donor to international labour migration, involving about 11% of the population of working age. (Ukraine. *Mihratsiinyi profil*, 2013). It should be stated that the majority (over 54%) of labour migrants from Ukraine are from rural areas, 66% of them are male, and their average age is 36.2 years. Labour migrants are characterized by a lower level of education than the national average level of the population (Malynovska 2011).

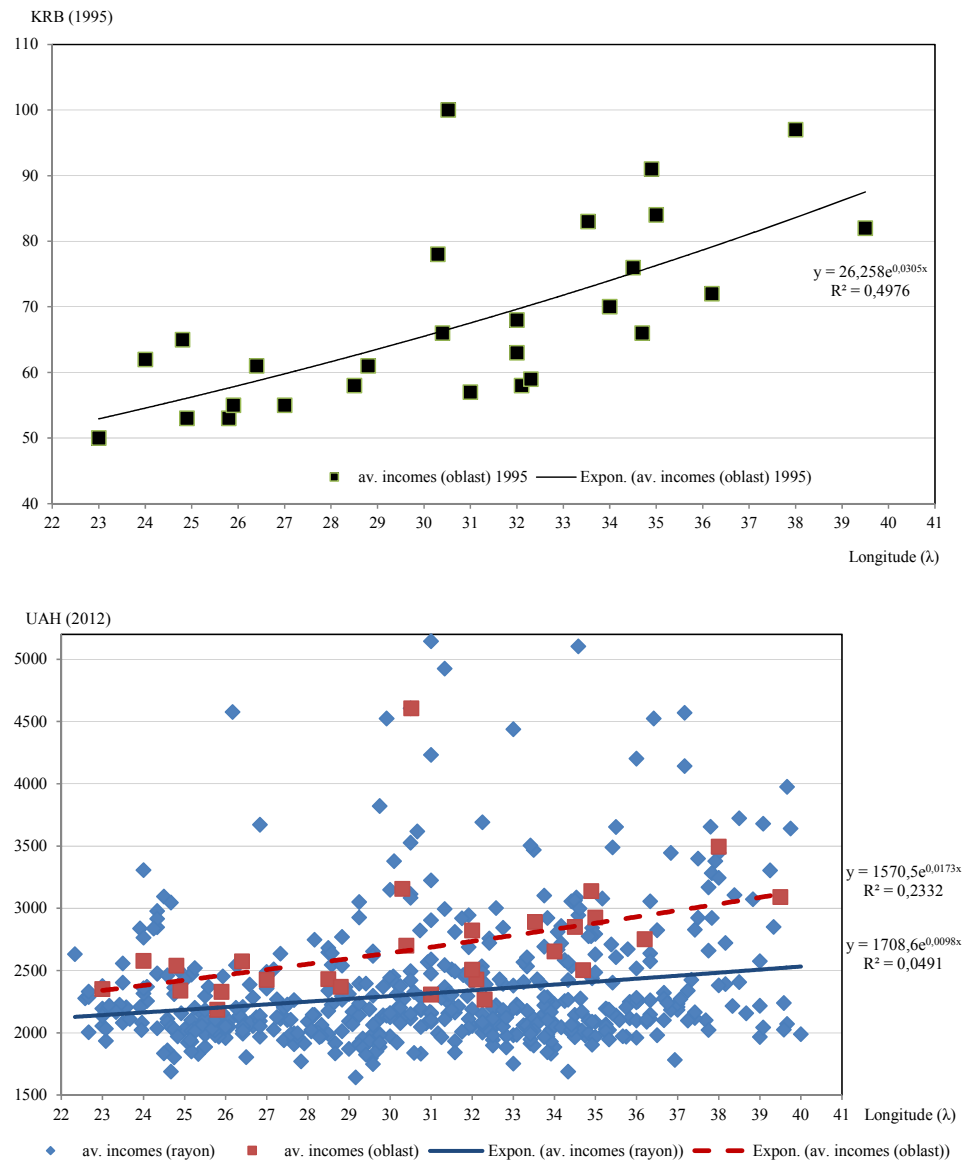
Urban regions as development poles

According to the classic perception, the spatial pattern of economic development is opposite to the Central European west to east slope. Moving eastward there is a rise in the development level. Actually average nominal wages, employment and unemployment at

the county level showed a massive east-west slope in the mid-1990s ($R^2=0.49$), but that resulted from the transformation crisis (Dövényi–Karácsonyi 2008); since then, it has decreased considerably. Such a significant correlation with geographical longitude cannot be demonstrated either at county or rayon level (Figure 4), i.e. spatial disparities on a national scale are not to be deduced from the east–west division.

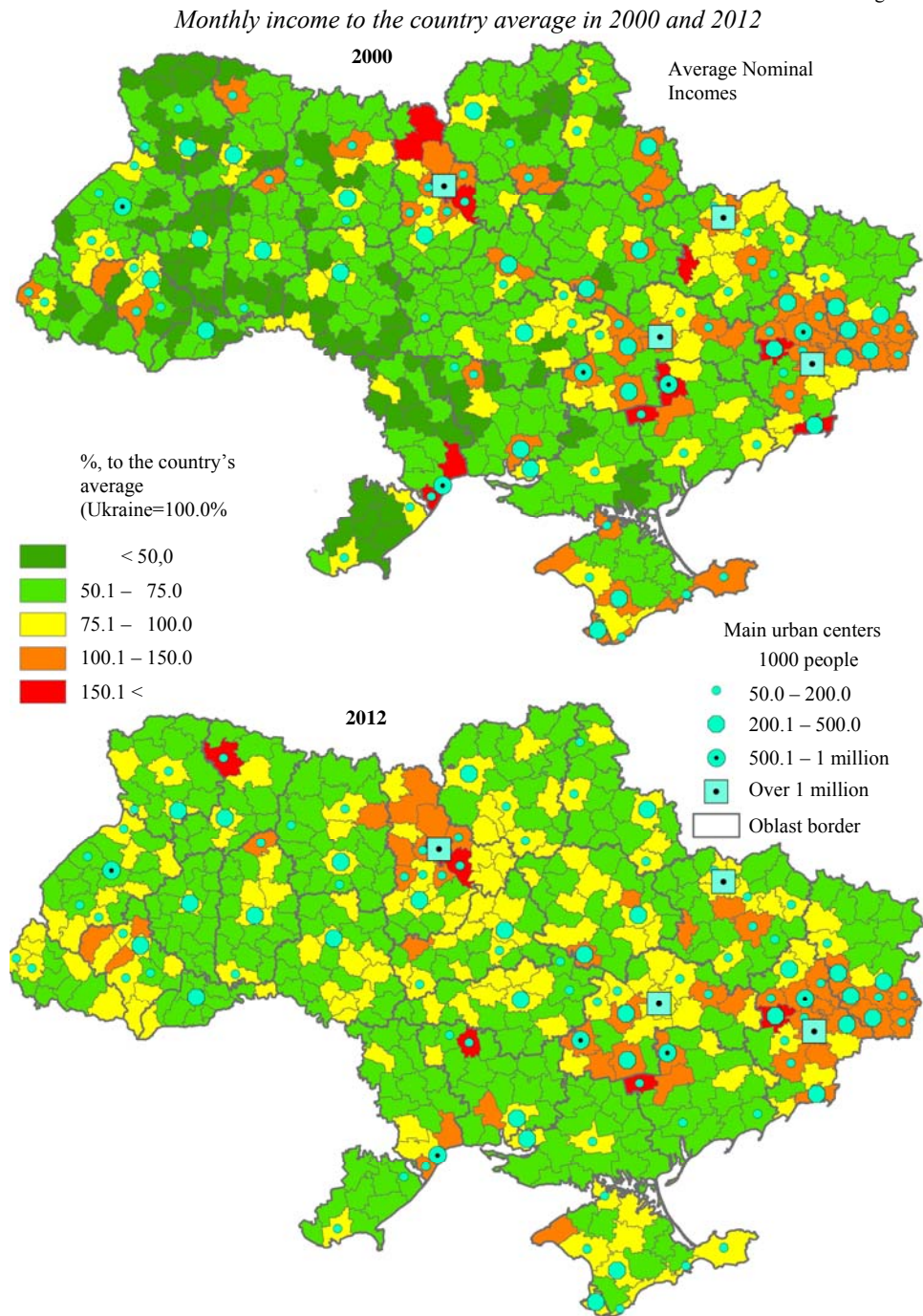
Figure 4

Variations of incomes and the east–west dimension



Source: own compilation.

Figure 5



Source: own compilation.

Rayon-level data on average nominal wages, employment and unemployment, are functions of the distance from urban centres ($r > 0.4$) and the level of urbanization ($r > 0.5$) (Table 3). Wages and salaries well above the average are to be found in large cities and industrial centres, whereas extremely low wages are a characteristic of expansive rural areas, especially of mid-west Ukraine (Figure 5). Differences in incomes reflect a considerable gap between urban and rural areas. The huge disparities of urbanization across the country mean that 65% of rural inhabitants live in the western part of the country, where the rural population share is 44%. An even more nuanced picture emerges if we exclude Kyiv's 2.8 million inhabitants. In this case, urban dwellers account for only half of western Ukraine's population. In contrast, urban dwellers account for 78% of the population in the eastern part of the country. In regions comprising the major industrial centres, e.g. in the Donets Basin, the inhabitants live almost exclusively in urban areas. Along with Kyiv, the eastern regions (Donets'k, Dnipropetrovs'k and Zaporizhzhia) produce an overwhelming part of the GDP and industrial output (Maksymenko 2000). Odesa is the only 1 million population city falling outside the area delineated by Kyiv–Dnipropetrovs'k–Donets'k–Kharkiv. (The population of Odesa was below 1 million in 2012–13, although by 2014, it was again over 1 million.) Apart from Lviv, there are only minor economic centres in the western half of the country.

Eastern regions are not more developed as a whole, but they accommodate large urban centres representing growth poles. There are less developed peripheral rural areas around them, as is demonstrated by the higher dispersion of the average wages and salaries.

The relationship between the average wages and eastern longitude of setting became increasingly accidental in the first half of the 2000s, and the close connection with urbanization also vanished with the improvement of the economic situation in the hitherto extremely poor rural areas. In the 2000s, especially after the global crisis the eastern regions gradually lost their relative favourable position, while urban growth poles were as a rule hit hard by the economic crisis.

Table 3

Correlation between average wages, urbanization and eastern longitudes on rayon level

r, n=501	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Urbanization	0.66	0.64	0.64	0.62	0.61	0.60	0.60	0.57	0.52	0.51	0.51	0.50
Longitude (λ)	0.31	0.28	0.25	0.22	0.21	0.20	0.21	0.21	0.21	0.21	0.22	0.22

Source: own calculation.

Polarization and levelling – effects of the crises

Similar to the countries of the East European region, transformation of the economy has been accompanied both by growing social inequalities and widening spatial disparities (Mykhnenko–Swain 2010, Skryzhevskaya 2008, Mezentsev–Pidgrushnyi–Mezentseva 2014). Spatial differences grew most rapidly during the period of economic decline (1990–2000). In 1985, nominal wages in Kyiv city hardly exceeded the average in the Ukrainian Soviet Socialist Republic; by 2001, they represented 1.8-fold value of the national average. As far as average wages and employment are concerned, the number of spatial units with figures above average continued to shrink during the 2000s. This means that the growth

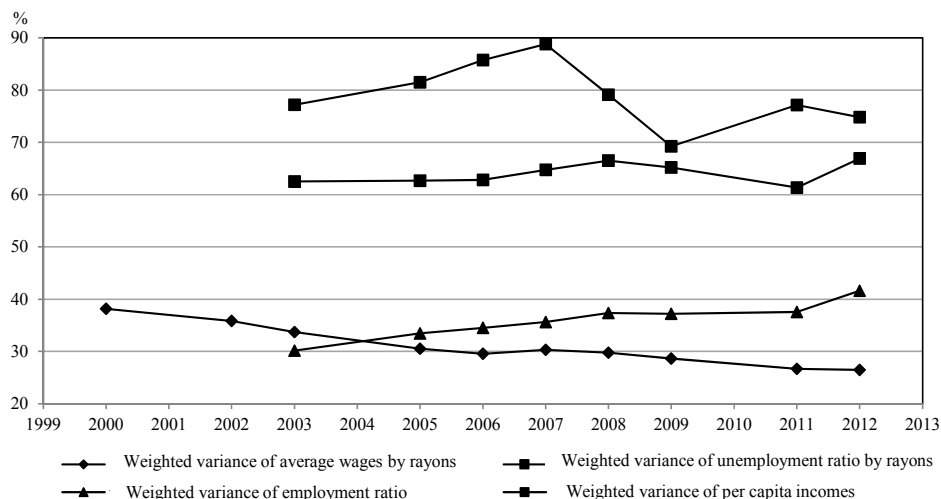
was maintained by poles less in number but being considerably stronger in the early 2010s than a decade before.

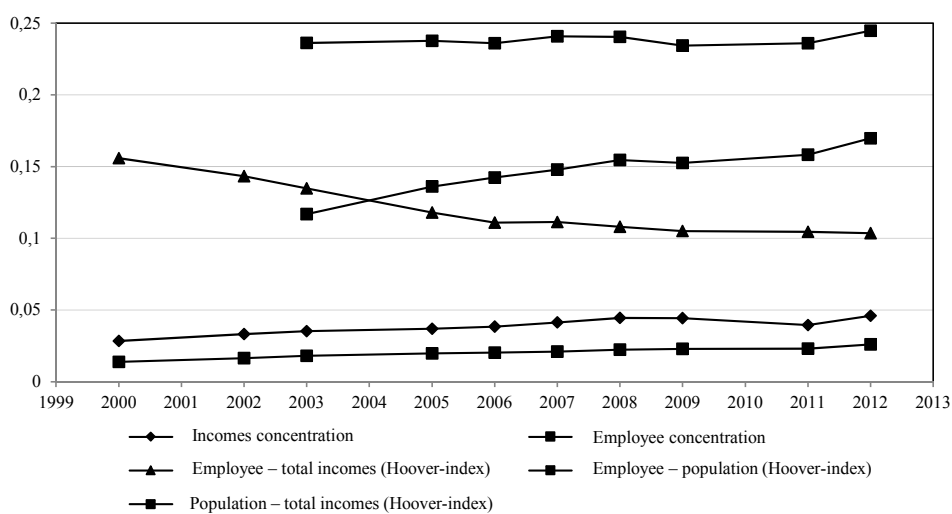
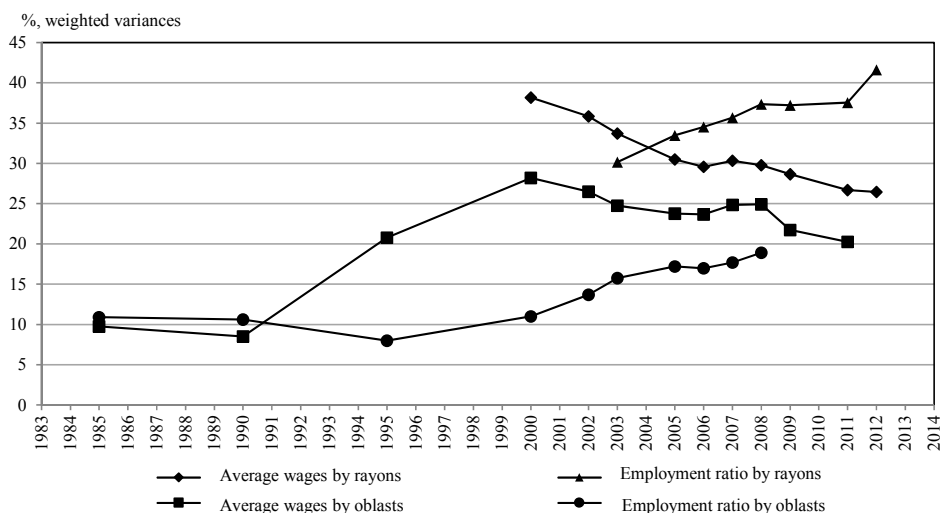
In spite of the increasing polarization, the regional differences showed a downward trend in average wages and salaries because the previous extreme low figures remaining below half the national average had disappeared from the western regions (Figure 5). Paradoxically, levelling of average wages was caused partly by the apparently growing inequalities of employment (Figure 6). When calculating average income, a growing number of small enterprises could not be taken into account; nor were they included in the employment figures. During the 2000s, employment (without small enterprises) could only rise in the large urban regions while decreasing in the rest of the country. Under the impact of transformation, farming-related workplaces with low wages and salaries disappeared primarily in the western rural areas, while private and small entrepreneurship came to the fore for economic reasons. Average wages have thus significantly increased in these peripheral rural regions.

Spatial disparities were mitigated during the two years following the global financial crisis as the latter mainly affected the large urban centres of the economy. Since 2011, the labour market has undergone a real differentiation in the wake of the recovery of urban regions from the crisis. Since 2009, the employment ratio increased mainly in the eastern regions of the country with a higher level of urbanization. Nevertheless, while in the Dnieper Region and Kharkiv, employment has been raised significantly, the Donets Basin could improve its positions only slightly. Even during the last decade, rising employment was only recorded in the cities of Donets'k and Luhans'k i.e. in the oblast centres. Entrepreneurial activity has been lower in the eastern regions as they depend overwhelmingly on the large industrial enterprises, and this exacerbated the general crisis here. Coal mining, determinant in the southeastern part of the basin, could only survive on state subsidies.

Figure 6

Spatial disparities of average wages, employment and unemployment





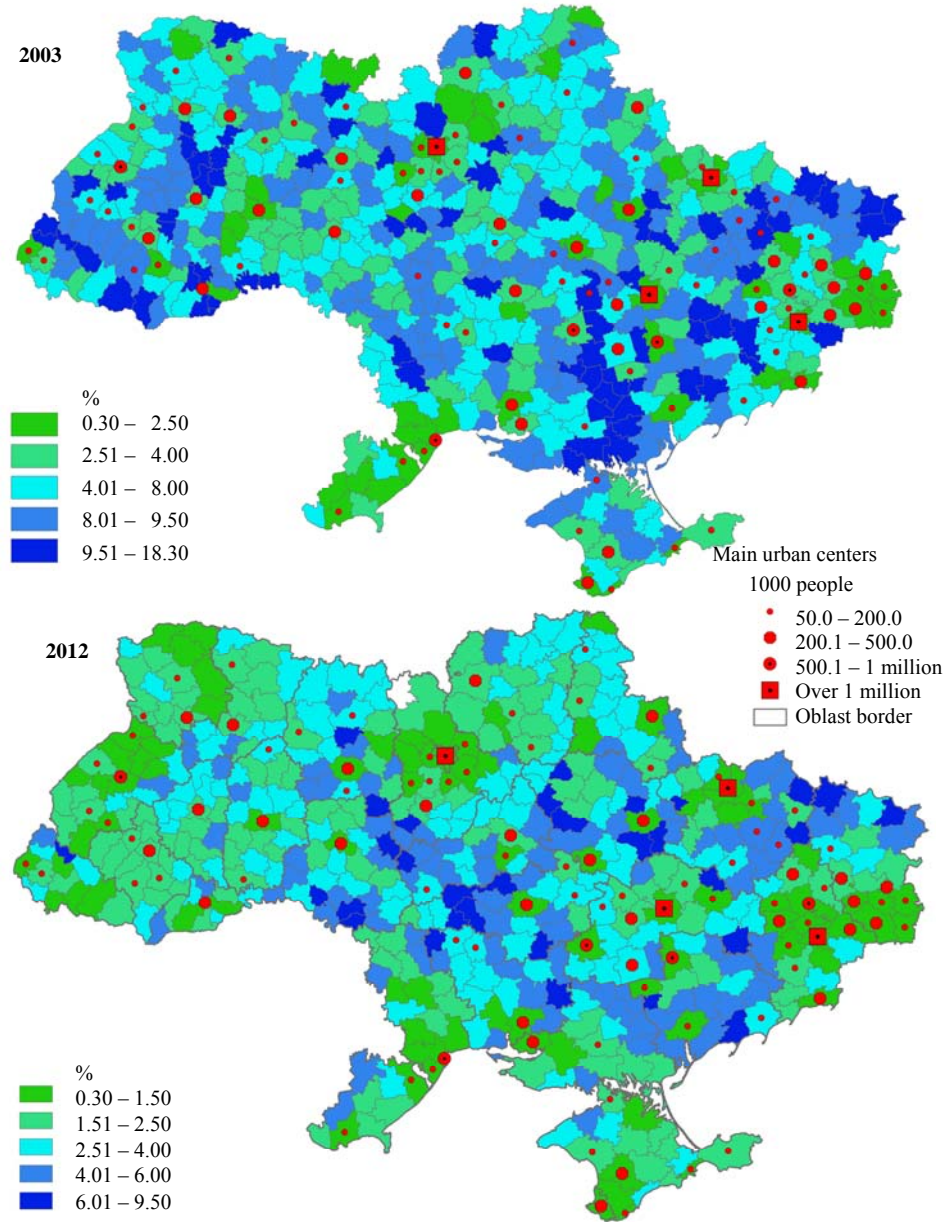
Source: own calculation.

The rapid rise in unemployment came relatively late in Ukraine, starting from the mid-1990s when market-oriented reforms aimed at economic transformation were launched (Kupets 2005). The important part played by small enterprises in employment is indicated by the considerable decrease in unemployment in the central rural region. This was even more pronounced in the west of the country close to the EU, in Galicia and Transcarpathia, during the 2000s, after the transformation crisis terminated. Spatial disparities in unemployment grew until 2007, then during the global crisis, a levelling occurred due to the lack of job opportunities appearing in the large urban centres. By 2012, strikingly high figures of unemployment were only recorded in the eastern peripheral regions, due to lower

entrepreneurial activity of the population. Extreme unemployment values in this case show maximum dispersion; this can be attributed to the low figures in urban agglomerations and high ones in the rural spaces (Figure 7).

Figure 7

Unemployment 2003, 2012



From crisis to separatism or crisis due to separatism?

Following the transformation crisis, and especially after the global financial collapse, the large urban spaces (Kyiv, Kharkiv metropolitan regions and agglomerations along the Dnieper River), were as a rule able to improve their economic position and recover from a considerable decline. The industry of the cities along the Dnieper consists of high-tech companies (missile and aerospace technology, Mrinska 2004). However, the Donets Basin as a whole was highly exposed to the effects of these crises owing to its outdated industrial structure (coal mining, iron and steel industry). This led to a rearrangement in the ranking of the east Ukrainian regions based on GDP per capita: Dnipropetrovs'k overtook Donets'k, and the Dnieper Region (including Zaporizhzhia) now has a higher output per capita than Donbas.

The Donets Basin has the most aged population on a national basis, and a large-scale outmigration has stricken the region. Whereas, the western regions are the primary source of migration towards the EU (Malynovska 2011). From the eastern part of the country (particularly from the less prospective Donets Basin), many young native Russian speakers have migrated to Russia, with the Moscow Metropolitan Region as the main target area (Zapadniuk 2011, Zovnishnia trudova migratsiia 2009).

The western half of the country was the most successful area of the 2000s, having risen from significant underdevelopment to close to the national average. In the marginal zone located close to the EU, that used to be a neglected border zone during Soviet times, unemployment dropped considerably as a result of the mushrooming small enterprises and foreign capital investment. Regional inequalities have been on the decrease between east and west, testifying to a relative devaluation of eastern Ukraine's position.

To sum up: a parallel cannot be drawn between the east–west economic dichotomy and recent political processes. Even though there is a close correlation between the ratio of Russian speakers and higher average wages, this might be attributed to the Russian minority mostly living in the urban areas (Table 4). The weakening correlation and shift of the centre of gravity of incomes towards the north-east are a clear indication of the eastern regions (including Russian-speaking ethnic blocks) having lost their absolute economic leadership.

Table 4
Correlation between average incomes and native tongue of the population on rayon level

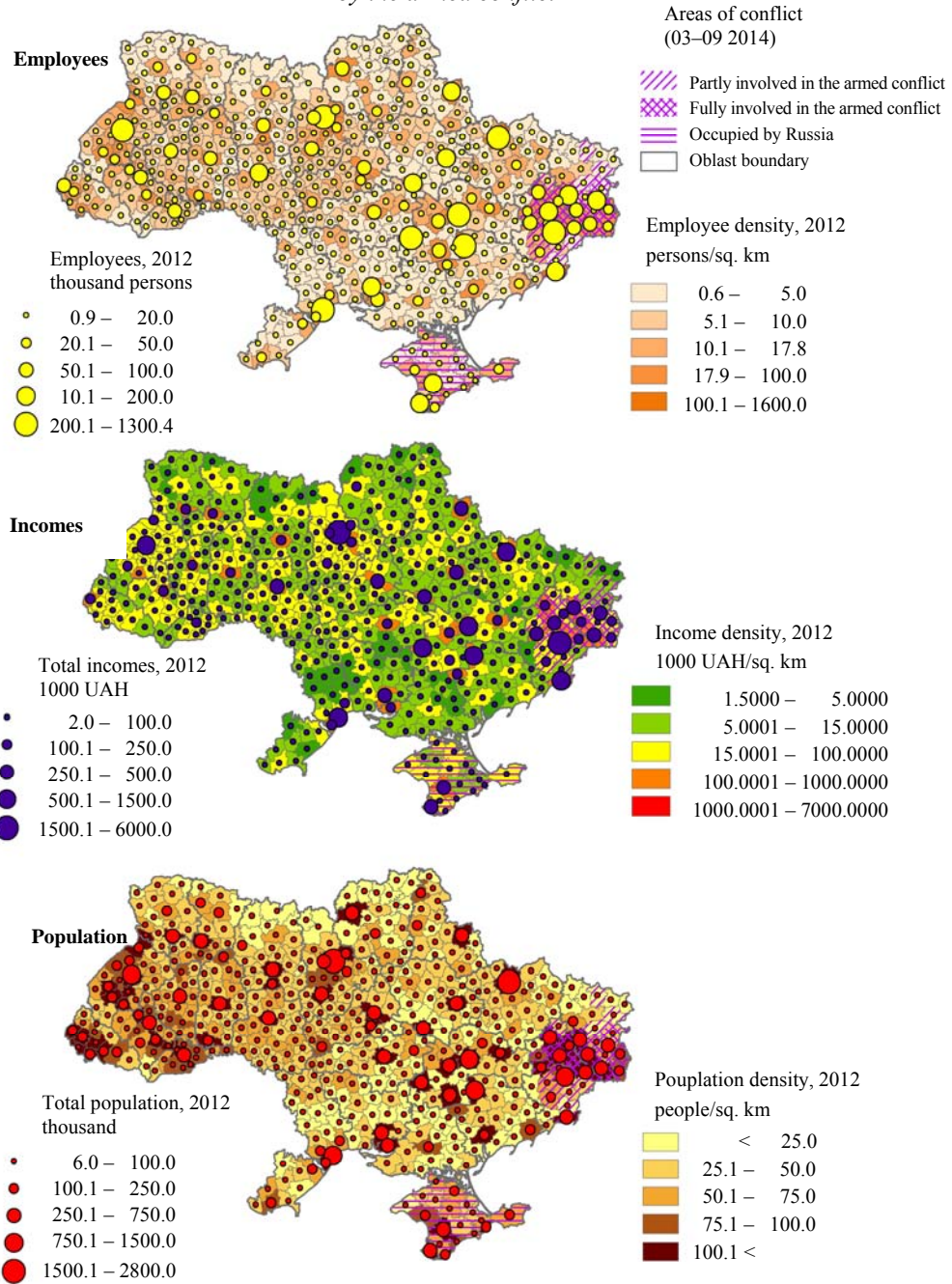
Denomination	2000	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012
Ukrainian speakers	–0.39	–0.39	–0.38	–0.35	–0.35	–0.34	–0.32	–0.30	–0.30	–0.29	–0.29
Russian speakers	0.48	0.47	0.46	0.43	0.42	0.42	0.39	0.38	0.37	0.37	0.37

Source: own calculation.

Areas in Donbas hit by the armed conflict extend all over this industrial region. The simplest method to measure economic effects is to examine economic indicators of the rayons affected by the conflict (Figure 8). The involvement of the individual rayons in the hostilities can be estimated through the turnover in the presidential elections of 05.25.2014 by rayon in Donets'k and Luhans'k oblasts. Those rayons, where the number of voters lagged behind the figures usual “in peacetime” or where the election did not take place at all, were obviously outside of Ukrainian central government control. In these areas, the government made an attempt to re-establish its power by armed intervention in June through August 2014.

Figure 8

Distribution of population and incomes in Ukraine and the areas affected by the armed conflict



Source: own compilation.

Donets'k and Luhans'k oblasts were characterized by indicator values over the national average in every respect between 2003 and 2012. The only exceptions were the years of the global crisis starting with 2008, when unemployment rose (Table 5). The average wages were not lower than ten years previously. The opposite was true throughout Crimea and Sevastopol', where indicator values remained below average. The problem with the official statistics rests with the missing data on small enterprises. The economy of the urban regions in east Ukraine and especially that of the Donbas is much more sensitive to central government subsidies than the economy in the western part of the country, which is supported by a strong sector of small enterprises. Cancellation of central subsidies or elimination of the economic cooperation between Russia and Ukraine might seriously affect whole branches of industry with significant numbers of workplaces, and provoke social unrest. The economic roots of the conflict thus rest with the dependence on state subsidies provided by central government. Clashes in the Donbas have their origin in politics; the outdated structure of the economy plays only a relative and indirect part.

Table 5

*Economic indicators for the Crimea and the rayons of Donets'k and Luhans'k oblasts affected by the fighting in 2014**

	2003	2005	2006	2007	2008	2009	2010	2011	2012
Average wages to the country average									
Crimea	92.3	92.2	92.3	91.6	90.4	91.3	91.6	89.2	89.5
Donets'k	116.8	118.6	115.0	114.2	112.0	111.3	115.7	117.8	116.3
Luhans'k	111.2	110.0	107.8	109.0	108.7	109.1	112.2	114.3	112.5
Per capita incomes to the country average									
Crimea	85.2	84.7	82.7	83.0	81.6	84.8	95.2	81.7	79.7
Donets'k	125.4	130.9	127.6	128.0	125.7	122.2	141.6	133.1	131.0
Luhans'k	117.1	119.7	118.1	120.9	121.6	120.6	140.8	132.7	130.5
Employees to the total population									
Ukraine	25.3	24.8	25.0	25.0	25.1	23.6	21.5	23.1	23.5
Crimea	23.3	22.8	22.4	22.7	22.6	21.9	22.3	21.1	21.0
Donets'k	27.1	27.4	27.8	28.0	28.1	25.9	26.2	26.1	26.5
Luhans'k	26.6	27.0	27.4	27.7	28.0	26.1	26.9	26.8	27.3
Unemployment									
Ukraine	3.35	2.76	2.40	1.94	2.41	1.75	1.68	1.50	1.53
Crimea	2.94	2.12	1.62	1.21	1.55	1.18	1.23	1.36	1.24
Donets'k	2.59	1.98	1.63	1.15	1.78	1.40	1.08	0.89	0.95
Luhans'k	2.02	1.45	1.28	1.01	1.49	1.00	0.86	0.73	0.84

* Donetsk and Luhansk affected by fighting area calculated from the data of presidential election in Ukraine (25.05.2014) – rayons where were no elections, or partly no elections (as not controlled by the central government).

Source: State Statistics Service of Ukraine.

The armed conflict is expected to have far-reaching and more serious implications for the economy than any of the previous crises. Because of the anticipated flight of capital,

the lag between the Donbas and the rest of the urban regions will widen, stemming from the unfavourable industrial structure of the former.

A significant part of the productive capacities and incomes are to be found in the Donbas, hit hard by the fighting; their loss would further deteriorate the state of the country's economy. Already, in autumn 2014, restrictions to energy consumption had to be introduced because of the fall in coal production of Donbas, as the latter has a direct impact on national GDP. The armed conflict has extended over an area equivalent to half of Hungary, making up 7% of the country's territory. Here, more than one-fifth of the working-age population and one-quarter of the employed live; more than 25% of GDP is produced here (Table 6). The Russian–Ukrainian conflict affects 10 million people (including the Crimea). All this means that one-quarter of the economic assets were not under the control of the central government in 2014, which will lead to a spectacular shrinkage of GDP. Taking into account an overall national decline of 10% and adding the fall shared by the areas affected by the conflict, the general decline might increase up to 30–40%.

Table 6

*Affected area, population and income during the war in 2014
– estimated from 2012 rayon level data**

Area	Area (km ²)	Population (persons)	15–65 years old population (persons)	Employees (1000 persons)	Total incomes (1000 UAH, 2012 prices)
Crimea	25,830	2,333,524	1,654,926	488.9	1,322,481
Donets'k	21,767	4,271,386	3,020,356	1,132.5	3,979,016
Luhans'k	17,602	3,467,487	2,490,526	946.5	3,218,386
Donbas total	39,369	7,738,873	5,510,882	2079	7,197,402
<i>Total</i>	<i>65,199</i>	<i>10,072,397</i>	<i>7,165,808</i>	<i>2,567.9</i>	<i>8,519,883</i>
In % (Ukraine =100%)					
Crimea	4.3	5.1	5.2	4.6	4.1
Donets'k	3.6	9.4	9.4	10.6	12.3
Luhans'k	2.9	7.6	7.8	8.8	10.0
Donbas total	6.6	17.0	17.2	19.4	22.3
<i>Total</i>	<i>10.9</i>	<i>22.2</i>	<i>22.4</i>	<i>24.0</i>	<i>26.4</i>

* In case of Donets'k and Luhans'k only rayons affected by the fighting. Donetsk and Luhansk affected by fighting area calculated from the data of presidential election in Ukraine (25.05.2014) – rayons where were no elections, or partly no elections (as not controlled by the central government).

Source: State Statistics Service of Ukraine.

It would be difficult to predict the long-term effects of the crisis because its end is not yet in sight. According to one scenario, Russia is to retain its military influence in the Donets Basin and to keep the local industry working through subsidized energy prices, similar to Transnistria. In this case, the Donbas will be unable to rely on the influx of foreign capital to modernize its industry. There has been a large-scale outmigration further deteriorating the otherwise unfavourable age structure.

If the Kyiv central government fails to resume its control over the Donets Basin, it might be a limiting factor for economic and international orientation of Ukraine in the

future. It should be emphasized that this is a merely new but at the same time quite familiar situation in the post-Soviet space. The Donets Basin and the Crimea just add to the frozen post-Soviet crises in Transnistria, Karabakh, South Ossetia and Abkhazia – but there are differences in the spatial dimensions and timing. The present conflict arose more than twenty years after the disintegration of the USSR and following the “freezing” of the other post-Soviet clashes, in a delayed historical context. There are two reasons for this. First, in the early 1990s, a conflict of this kind could have threatened a clash of two nuclear powers, as Ukraine gave up its nuclear weapons stockpile only with the Budapest Memorandum signed in 1994; in exchange, the great powers (among them the Russian Federation) provided security assurances. Second, Russia of the time teased by the events in Transnistria, Nagorno-Karabakh, Abkhazia, Tajikistan and Chechnya could not undertake such a conflict. The size and economic importance of the region affected by the conflict (Table 7) indicate that among the post-Soviet conflicts so far, it was the fighting in the Donbas that did by far the greatest harm to the economy. It happened in a period when Ukraine, after the transformation crisis, had been on the path of growth for more than a decade. Concerning population, area and economic weight, the Donbas exceeds Transnistria or Karabakh by magnitude. Some 10 million people are affected in an area two-thirds of Hungary (65 thousand sq. km). Ukraine would barely be able to solve its economic problems using only internal resources. Moreover, the whole post-Soviet space just having started to recover from the decline caused by the global crisis might sink into a deep economic depression.

Table 7

Size of “frozen and hot” conflicts in post-Soviet space

Conflict area	Country	Date (since)	Area (1000 km ²)	Population around 2010 (1000 persons)	Ratio of the country's area (%)	Ratio of the country's population (%)
Transnistria	Moldova	1990	4.1	505	12.0	12.5
South Ossetia	Georgia	1991	3.9	51	5.7	1.0
Abkhazia	Georgia	1992	8.6	242	12.4	5.0
Nagorno Karabakh	Azerbaijan	1991	11.4	146	13.0	1.5
Crimea	Ukraine	2014	25.8	2,300	4.3	5.1
Donbas	Ukraine	2014	~39	~7,700	~6.6	~17

Source: own calculation from the data published by the statistical offices of Ukraine, Moldova, Georgia, Azerbaijan and the above-mentioned non-recognized countries.

Conclusions

The spatial disparities of economic life in Ukraine are consequences of the inequalities in the level of urbanization characterized by a massive west–east dichotomy. The spatial pattern of the economy is also dualistic, with the entrepreneurial western areas vs. the eastern regions depending on the large industrial enterprises. During the take-off of the economy following the transformation crisis, disparities tended to grow; the global crisis then temporarily reduced the advantage of the growth poled. At the same time, the relative position of the Donets Basin within the country deteriorated due to the overwhelmingly

uncompetitive industries. The present problems of the economy are rooted in the postponement of the economic reforms and an outdated structure that has been exacerbated by the global crisis. Although spatial inequalities lessened during the initial years after the crisis, the small enterprise sector in the west and urban regions, with a more competitive economic structure, managed to overcome the crisis in a relatively short time.

The present conflict did not originate from the growing spatial disparities or the lagging of the eastern territories. It stemmed from an east anxious that in the case of a possible western orientation, the less competitive sectors of the economy might be eliminated, with a special reference to the Donbas. Damage caused to the economy by the warfare exceed the combined loss during the conflicts since the disintegration of the USSR, due to the utmost economic importance of the affected Donbas. One-fifth of the economy of Ukraine virtually vanished; in addition, the world is facing a new geopolitical situation in the post-Soviet space, one that threatens to thoroughly rearrange the further orientation of future integrations.

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