New Economic Geography and the Conception of Social Factors of Criminality: Areas of Common Interest and Prospects for Synthesis

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Abstract: The article discusses the application of «new economic geography» in investigating the reasons for territorial distinctions and other factors of criminality.

PRELIMINARY CONSIDERATIONS

Investigating the reasons for territorial distinctions in criminality is the central issue in Russian criminology. Since the problem has been under discussion (the early XXth cent.), this issue has shaped the whole field of criminology. By investigating the territorial distinctions of criminality, researchers tried to find the reasons for criminality in general, that is, to find out its reasons as a social phenomenon. The researchers most successful in this field were criminologists of the Soviet period. While studying factors related to territorial distinctions in criminality, including the influence of demographics (Babaev *et al*. 1976), tendencies in different locations (Babaev *et al*. 1971; Zabryansky 1990), and the reasons for these differences (Gabiani and Gachechiladze 1982; The impact of social conditions… 1977; Crime territorial differences… 1988), Soviet scientists obtained good evidence that the genesis of criminality is primarily due to social and economic factors.

Under the administrative-command system and planned economy of the USSR, these scientific conclusions mattered to the organization of peoples' lives. The complete long-term control of nearly all areas of life in Soviet society made it possible to forecast criminologically significant social and economic factors that the government intended to address. For example, if Soviet criminologists were able to say that criminality increases in a region during its intensive exploration (because workers drawn to the region face difficulties unique to migrants as well as an insufficient social infrastructure, and so on), it may be possible to forecast the development of crime in that territory and

increase crime prevention there. Such possibilities explain the greater attention to and serious support for criminological investigations by the Soviet government from 1970-1980.

Whether there is the same opportunity in modern conditions is worth investigating. Under contemporary conditions, when social and economic processes develop in Russia accidentally and their regulation by the state and the regional governments is weak, studying the influence of these processes on criminality becomes problematic. However, even a cursory look at this problem shows that the findings of the Soviet period are not always consistent with the realities of today.

We first find that the most negative predictor of crime in all territories during the Soviet period was when the socio-economic sphere underwent significant positive transformations (expanding industrial activity, an influx of manpower, an increase in local incomes, etc.); however, the post-Soviet era demonstrated contradictory trends: the largest increase in crime was characterized by a higher degree of degradation of the socio-economic sphere. Unfortunately, not all trends were clear. In general, regions in Eastern Russia (the Urals and Siberia) displayed similar rates of crime increases to coincide with deteriorating socio-economic situations, whereas Central Russia (predominantly in the so-called Non-Black Earth Region) demonstrated a more gradual increase in crime rates.

Secondly, if you analyze the two "poles" of domestic crime, the smallest and largest crime levels, to determine an overall pattern in Russia, we should only consider regions other than the highest level of crime over the past decade. As a rule, eastern territories – the Republics of Buryatia, Zabaykalsky Krai, and the Irkutsk and Kurgan Regions – with focused economies and significant rural populations, have a strong

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tendency to depopulate. Until recently, this group included regions highly contrasting in terms of their social and economic profiles, such as the industrially developed and highly urbanized territories of Ural – namely, the Perm Krai and Sverdlovsk Regions. The regions gravitating to a "positive" pole of criminal tendencies are, strangely, the least economically and socially developed, such as the North Caucasus. Territories in Central and Southern Russia – Krasnodar Krai, and the Belgorod and Voronezh Regions – are dynamically developing in this regard. The Volga Region and the Republic of Mordovia are considerably lower than other regions in terms of rates, but have other good indicators of social and economic balance. Other regions are inexplicably stuck in a condition of stagnation, such as the Penza and Ryazan Regions.

Still, large "diversity" exists in all "median" groups, depending on the particular regional dynamics of crime. The median groups cannot be united into one group using any of the various criteria of social and economic development now known to criminologists. However, regions' considerable dynamic "mobility" between these "poles" of a crime rate can be observed (Bakharev 2011). There are regularities in terms of this "mobility," although in criminological science they have not been formalized.

Finally, if we turn to the role of demographic processes (in particular, urbanization and migration) in the formation of these differences, we find that not everything in the current situation can be explained by well-established theoretical views on the subject. Even a preliminary study of crime rates in the regions with the largest outflow and inflow of migrants (and consequently, low or high levels of urbanization) suggests that crime rates in these regions are significantly higher than those in the demographically "successful" regions (Bakharev 2013). This situation also differs significantly from recorded Soviet criminological science (Babaev *et al.* 1971).

What's the deal here? Is it a usage of erroneous social factors of crime or has the character and development of modern public relations in Russia, which has long established the views of Soviet scientists, changed? Are these scientists simply unable to adequately explain criminologically significant consequences?

Before attempting to answer these questions, it is necessary to understand that criminology depends to a great degree on the achievements of adjacent social and economic sciences (economics, sociology, social

and economic geography, etc.), but they unfortunately haven't yet completely determined the development of social and economic processes in Russian society under contemporary conditions. Russian criminologists do not have a good idea about, for example, the mechanisms of migration, and they are not aware of the regularities of economic growth and provincial territories. Although all of the processes can be observed by the unaided eye, these processes do not present a complete picture according to the greater part of the representatives of the social sciences.

In this context, P. Krugman and his followers try to explain the regularities of irregular arrangements of economic factors across regions using mathematical tools in the theory of «new economic geography» (NEG), which was first articulated in the XXth century. The main postulates of NEG have the same views on the concentration of economic activity of people in space and its sequences, only in a more abstract way.

Thus, the work of J. Fridman («The policy of a region development: the experience of Venezuela», 1966) supported the idea that the theory of «centre and periphery» can play a serious part in explaining regularities in spatial development. The theory of «centre and periphery» demonstrates how centers of a different level (e.g., communities) tie up different resources from their periphery (e.g., human resources, natural resources, etc.) which makes it possible for these centers to develop at a greater speed. Further, these innovations are eventually transmitted to the periphery. This process was described previously as «innovation diffusions». The first to investigate this phenomenon was T. Hegerstrand («Innovation diffusions as a spatial process», 1953). He noted that innovation diffusions occur in two ways: first, according to the acquired system of communities (from the biggest to the smaller cities either in size or in administrative status), and second, to suburbs adjoining population centers.

Earlier, F. Perru (1950) theorized about «growth poles», that is, the location where production of leading fields begins to arrange and then becomes a center production and the locus of an economic pole. However, only P. Krugman and his supporters connected these ideas with current economic ideas (Fujita, Krugman. and Venables 2001). Only within the framework of NEG did the process of agglomeration formation, conditioned by its central and peripheral breaks in accordance with centrifugal and centripetal forces, become formalized (Pilyasov 2011:16).

Our interest here is matching basic points of NEG with the data on criminal tendencies in some regions of the Russian Federation. Finding out definite, meaningful dependencies between direction and intensity of separate social processes provides grounds for a criminological theory of social factors in modern conditions. The character and peculiarities of these dependencies under market economics are explained in the context of NEG.

First, it is necessary to consider the statistical data characterizing the urban atmosphere of regions as well as the population as a whole. Russian supporters of NEG note that the theory of center-periphery relationships entail that if there are no huge economic centers on the territory, then the territory is expected to fall behind in social and economic development. For the steady development of a territory, the location of large cities must be equal and tense. In a resettlement system, population density is important: the higher the density of the population, the higher the size of the consumer market and the lower transport expenses on delivery of ready goods (Kuznetsova 2013:126). Other authors consider population density as a factor of spatial concentration of the production of goods and services and a factor of interregional differences of workforce productivity (Kolomak 2013:144).

RESEARCH HYPOTHESIS

We assume (with postulates of NEG) that the size and density of the population of a region (first, urban) and the average size of one community are data characterizing the general position of the social and economic spheres of the territory. The higher the size and density of the population of a town, the more economic, cultural and other creative activities a citizen has. A city becomes «the growth point», organizing a development of «central and peripheral» processes, and because of «innovation diffusions», it has a positive influence on the development of a nearby territory. Therefore, the dynamics in data of density of population of a region and average size of one of its communities show how advanced these regions are socially and economically from their inhabitants' point of view. The widely accepted idea in criminology that social factors are the genesis of criminality suggests that the more problematic territories are urban, which degrade more quickly in modern Russian society.

RESEARCH METHODOLOGY

Under review were 11 of the 13 regions in Central Russia (Leyzerovich 2010). Moscow and the Moscow region were excluded for their extreme differences on all characteristics from the rest of the group, some of which contain regions similar to Moscow in their social and economic conditions. All of the regions are under the great negative influence of Moscow agglomeration in «drawing out» human resources. Static and dynamic data characterizing the state and tendencies of population changes in each region are presented in Tables **1**-**4**.

The state and dynamics of criminality were investigated by region from 2003-2011 (the data for 2012 have not been officially published by the Federal Service of State Statistics of the RF). The year of the

Table 1: Square and Number of Population

		Square, thous. km^2	Population, people (2002)	Population, people (2010)	Urban population, people (2010)	Urban population, people (2002)
1	The Bryansk Region	34,9	1378941	1278217	883427	943382
2	The Vladimir Region	29,1	1523990	1443693	1120671	1213865
3	The Ivanovo Region	21,4	1148329	1061651	859335	949249
4	The Kaluga Region	29,8	1041641	1010930	771655	779481
5	The Kostroma Region	60,2	736641	667562	466689	496145
6	The Oryol Region	24,7	860262	786935	515404	546478
7	The Ryazan Region	39,6	1227910	1154114	818349	846180
8	The Smolensk Region	49,8	1049574	985537	716299	743599
9	The Tver Region	84,2	1471459	1353392	1011406	1075746
10	The Tula Region	25,7	1675758	1553925	1233689	1366818
11	The Yaroslav Region	36,2	1367398	1272468	1045526	1106805

Table 2: The Number of Urban Communities and Communities without People

		The number of towns	The number of urban-type settlements	The number of communities without people (2010)
1	The Bryansk Region	16	24	316
2	The Vladimir Region	23	9	316
3	The Ivanovo Region	17	13	634
4	The Kaluga Region	22	10	451
5	The Kostroma Region	12	7	1189
6	The Oryol Region	7	13	344
7	The Ryazan Region	12	22	361
8	The Smolensk Region	15	12	978
9	The Tver Region	23	28	2230
10	The Tula Region	19	25	487
11	The Yaroslav Region	11	13	1550

Table 3: Dynamics of Density of Population (2002-2010)

		Density of population, people/ km² (2002)	Density of population, people/ km² (2010)	Density of urban population, people/ km² (2002)	Density of urban population, people/ km² (2010)	Dynamics of density of population, % (2002-2010)	Dynamics of density of urban population, % (2002-2010)	Density of population without people, 1 community/km² (2010)
1	The Bryansk Region	39,51	36,62	27,03	25,31	-7,31	-6,36	110,44
2	The Vladimir Region	52,37	49,61	41,71	38,51	-5,27	-7,67	92,08
3	The Ivanovo Region	53,66	49,61	44,36	40,15	-7,54	-9,49	33,75
4	The Kaluga Region	34,95	33,92	26,16	25,89	-2,94	-1,03	66,07
5	The Kostroma Region	12,23	11,09	8,24	7,75	-9,32	-5,95	50,63
6	The Oryol Region	34,83	31,86	22,12	20,86	-8,53	-5,69	71,8
7	The Ryazan Region	31	29,14	21,37	20,66	-6	-3,32	109,69
8	The Smolensk Region	21,07	19,79	14,93	14,38	-6,07	-3,68	50,92
9	The Tver Region	17,47	16,07	12,77	12,01	-8,01	-5,95	37,75
10	The Tula Region	65,2	60,46	53,18	48	-7,27	-9,74	52,77
11	The Yaroslav Region	37,77	35,15	30,57	28,88	-6,93	-5,53	23,35

population census (2002) was purposefully excluded from the period because of an evident fall in crime. However, as mentioned in the criminological literature, the fall in crime was caused not by success in crime prevention but by the release of a new criminal procedure code (which came into force July 1, 2002)

that greatly complicated the work of law-enforcement and had a negative impact on crime registration (Luneev 2005:210, 2007:52). The average level of crime (the number of fixed crimes per 100,000 people) from 2003-2011 was chosen as the index of criminality (Table **5**). The dynamics of criminality is characterized

Table 4:   The Number and Dynamics of the Average Number of One Community (2002-2010)

		The average number of population of one urban community, people (2002)	The average number of population of one urban community, people (2010)	Dynamics of the average number of population of one urban community, % (2002-2010)
1	The Bryansk Region	23584	22085	-6,35
2	The Vladimir Region	37933	35020	-7,68
3	The Ivanovo Region	31641	28644	-9,47
4	The Kaluga Region	24358	24114	-1
5	The Kostroma Region	26112	24562	-5,93
6	The Oryol Region	27323	25770	-5,68
7	The Ryazan Region	24887	24069	-3,28
8	The Smolensk Region	27540	26529	-3,67
9	The Tver Region	21093	19831	-6
10	The Tula Region	31064	28038	-9,74
11	The Yaroslav Region	46116	43563	-5,53

Table 5:   Criminality Level (2003-2011)

		2003	2004	2005	2006	2007	2008	2009	2010	2011	The average level 2003-2011
1	The Bryansk Region	1809	1856	2321	2191	2148	2049	1982	1833	1533	1969,111
2	The Vladimir Region	1913	2140	2471	2497	2296	1956	1898	1775	1659	2067,222
3	The Ivanovo Region	2266	2170	2377	2462	2302	1939	1827	1771	1628	2082,444
4	The Kaluga Region	1766	2026	2541	2541	2263	2095	1938	1776	1496	2049,111
5	The Kostroma Region	2197	2214	2466	2345	2007	1640	1587	1480	1394	1925,556
6	The Oryol Region	1901	1941	2282	2512	2478	2106	1897	1730	1610	2050,778
7	The Ryazan Region	1023	963	1450	1373	1175	1155	951	916	845	1094,556
8	The Smolensk Region	2070	2312	2779	2738	2423	2297	2291	2116	1856	2320,222
9	The Tver Region	1967	2037	2850	2964	2795	2585	2473	2202	2150	2447
10	The Tula Region	1116	1170	1261	1306	1229	1150	1145	1023	949	1149,889
11	The Yaroslav Region	2380	2754	3420	3097	2681	2288	2077	1673	1454	2424,889

by two indexes: 1) the criminality level growth (from 2003-2006); and 2) the criminal level fall (from 2006-2011) in percent. (See Table **6**. The data are given according to: Regions of Russia… 2012.)

With the help of defining the paired linear correlation size, there is a correlation between the criminality index and population density.

RESULTS

The analysis showed that there is a correlation between the criminality index and *all* indexes of population density and region size (Table **7**). Thus, the latter index correlates positively with the criminality: the larger the region is, the higher the level of criminality is (the correlation coefficient – 0, 34). There is a negative correlation between the average crime level and static indexes of population density, including urban areas (the correlation coefficient – from -0, 14 to -0, 49). The higher these indexes, the more likely the crime level will be less than average.

According to the results of correlation analysis (Table **8**), the indexes of criminality interact differently

Table 6:   Dynamics of Increase and Fall of Criminality Level (2003-2011)

		2004	2005	2006	2007	2008	2009	2010	2011	The general increase	The general fall
1	The Bryansk Region	+2,53	+25,05	-5,6	-1,96	-4,61	-3,27	-7,52	-16,36	+28,3	-33,95
2	The Vladimir Region	+11,86	+15,47	+1,05	-8,05	-14,8	-2,96	-6,48	-6,53	+30,53	-33,56
3	The Ivanovo Region	-4,24	+9,54	+3,58	-6,5	-15,77	-5,77	-3,06	-8,07	+8,65	-33,87
4	The Kaluga Region	+14,72	+25,42	0	-10,94	-7,42	-7,49	-8,36	-15,76	+43,88	-41,12
5	The Kostroma Region	+0,77	+11,38	-4,91	-14,41	-18,29	-3,23	-6,74	-5,81	+12,24	-43,47
6	The Oryol Region	+2,1	+17,57	+10,08	-1,35	-15,01	-9,92	-8,8	-6,93	+32,14	-35,91
7	The Ryazan Region	-5,86	+50,57	-5,31	-14,42	-1,7	-17,66	-3,68	-7,75	+41,74	-41,72
8	The Smolensk Region	+11,69	+20,2	-1,48	-11,5	-5,2	-0,26	-7,64	-12,29	+34,25	-33,21
9	The Tver Region	+3,56	+39,91	+4	-5,7	-7,51	-4,33	-10,96	-2,36	+50,68	-27,46
10	The Tula Region	+4,84	+7,77	+3,57	-5,89	-6,43	-0,43	-10,65	-7,23	+17,02	-27,33
11	The Yaroslav Region	+15,71	+24,18	-9,44	-13,43	-14,66	-9,22	-19,45	-13,09	+43,7	-53,05

Table 7:   The Degree of Correlation of the Size of the Average Criminality Level with the Indexes of Number, Density of Population and the Square of Regions

	Square, thous. km^2	Population, people	Urban population, people. (2010)	Density of population, people./km^2 (2010)	Density of urban population, people./km^2 (2010)	Density of population of communities without people, 1 community/km^2 (2010)
The average criminality level	0,34	-0,19	-0,14	-0,39	-0,35	-0,49

Table 8:   The Degree of Correlation of Indexes of Dynamics of Criminality Level with the Indexes of Dynamics and Density of Population and Changes in Average Number of One Community

	Dynamics of density of population, % (2002-2010)	Dynamics of density of urban population, % (2002-2010)	Dynamics of average number of one urban community, % (2002-2010)
General increase level of criminality, %	0,44	0,67	0,66
General fall level of criminality, %	-0,11	-0,44	-0,44

with population density and the change in number of one urban community. Thus, the increase of the crime level showed the direct dependence on the given indexes (correlation coefficient – from 0, 44 to 0, 67): a smaller population density corresponds to a lower crime level. Conversely, the tendency of the crime level to fall correlates negatively with the indexes of population density: as migration rates from regions decrease, crime rates fall more quickly (correlation coefficient – from – 0, 11 to -0,44).

Therefore, if population development in a particular region occurs positively (it is a natural phenomenon and better in terms of socio-economic development than other regions belonging to the same typological group), criminality tendencies in this region will be more favorable. This conclusion is another argument in favor of the social conditioning of criminality.

CONCLUSIONS

The results are a serious argument in favor of the synthesis of basic conclusions of «new economic

geography» with the accumulated experience of criminologists in investigating the reasons for territorial distinctions in criminality. The current research was conducted with simple methods using a small amount of official statistics grouped if not at random, according to region; these methods provided valid results. If a Russian typology of regions was created using different criteria with other static regional data, the results may be more impressive.

Thus, as the research shows, if the population of the region develops according to a more optimistic scenario, the probability is great that crime tendencies will be more favorable in comparison to other territories where the demographic situation is less positive. Follow-up studies may find a relationship between migratory activity and the number of crimes. Moreover, if a positive correlation is detected between population growth that increases the overall level of socio-economic situation of the region (which directly fits into the framework of NEG), it will be a serious argument in favor of the concept of social conditioning of crime, and evidence that the influence of social factors on crime in a market economy works fundamentally differently than in the planned method of state and Social Construction.

These results serve as a serious argument in favor of the synthesis of "new economic geography" and the experience of criminologists researching the reasons for and regularities of territorial distinctions of crime. Perhaps the application of «new economic geography» in criminological research will confirm long-standing ideas about conditioning changes in criminality through different social processes.

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