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CRIMINALITY IN THE RURAL AREAS

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Criminality is not a problem in the urban areas only; it has become one of the main problems in the rural areas as well. The countryside is not considered as a crime free area anymore. The rural criminality research helps to find and adopt the right preventive measures. Cooperation of all the sectors, state, businessmen, self-government and non-governmental organisations is important. In order to look for some suitable preventive measures, it is necessary to find the causes of the rural criminality. There are many criminality factors. However, we can expect that in dependence on the character and activities of a region, these causes will be specific for each rural area. The aim of this paper is firstly to notice that the rural criminality is a blind place in the research activities in Slovakia and secondly to try to identify some factors which are impulses to commit crimes in the rural areas.

Keywords: criminality, rural areas, criminality factors

Rural areas are very often the main objective of researchers from various fields of science. They usually try to evaluate the potential factors of the rural areas development. However, the research studies aimed at the incidence of criminality in the rural areas are still missing. Only few Slovak scientific works point out the crimes committed in the rural areas. The reason is that the criminality research is concentrated only in the urban areas where the number of crimes is higher than in the rural ones. Rural areas are regarded as isolated and less populated areas and researchers do not expect a high crime intensity that could be interesting for their research studies.

Nowadays, it is not possible to consider the rural areas as highly isolated and crimeless anymore. However, there are great differences between the criminality in the rural and urban areas. Rural crimes are specific because of their specific causes; therefore the prevention measures need to be the specific and focused on the rural needs and troubles. Our opinion is also expressed by Fáziková (2009): "The rural area is an empiric category where the general social, economic and ecological processes have their own specific features." Therefore we assume that the rural criminality has its own specific features as well and that it is necessary to carry out a specific research as well.

Material and methods

The rural criminality issue is very broad. This paper pays attention to some selected factors which can affect the rural criminality.

The objective of the paper is to analyse the statistical significance of the selected factors in terms of rural criminality. The selected factors represent the geographical, demographical, social and economic situation of the Slovak rural areas. Of course, it would be suitable to follow more indicators but research like that would cross the possibilities of this paper. The main aim of this paper is to initiate

a discussion and to inspire other researchers to study the rural criminality in Slovakia.

For the purpose of this paper, literary sources available on this subject and the statistical data were used. The available data were analysed by the regression and correlation analysis. The dependent variable is criminality evaluated by the index of criminality. The index of criminality expresses number of crimes in the region per 10,000 inhabitants. We usually use the index of total criminality but in some cases we do the analysis using the index of property, violent and economic criminality. Property criminality includes various types of thefts, such as vehicles thefts, thefts in the flats, etc. Violent criminality includes murders, robberies, batteries, organized crimes, violence against public authorities and violence with the race incentives. Economic criminality includes tax crimes, crimes against currency, threats of the foreign-exchange economy, corruption, defraudation, frauds and interruption of the copyrights.

Independent variables are geographical indicator (population density in the region per 1 km²), demographical indicator (number of immigrants per 1 km² in the region), social indicator (number of divorces per 10,000 inhabitants in the region) and economic indicators (rate of employment, average wages and number of employees in the tourism in the region).

All the regions in Slovakia, except for Bratislava and Košice districts, are considered as rural areas. Therefore we carry out our research in all districts of Slovakia except for districts Bratislava I – V and Košice I – IV. We applied the OECD methodology to stipulate the rural or urban region. It means the rural regions are all regions where more than 15 % of inhabitants live in the countryside. The OECD methodology knows also the semi-rural areas. The semi-rural areas are all districts where more than 15 % but less than 50 % of inhabitants live in the countryside. In some cases we carry out our research exclusively in the semi-rural or rural areas with more than 50 % of inhabitants living in the country.

Results and discussion

1. Criminality and rural criminality

The term criminality does not have a unique definition. Some researchers define criminality only from the legal point of view. According to Tomášek (2010), "the Criminal Code is the key for marking some individual dealing as the criminal dealing without doubts. Criminality is a summary of such factors of behaviour, which the criminal law considers as crimes". Dianiška (et al., 2009) and Heretik (2004) point out that "criminality is a summary of the crimes committed intentionally or neglectfully by responsible individuals on certain place and for certain period of time".

Some researchers describe criminality not only from the legal but also from the sociological point of view. Holcr (et al., 2008) defines the criminality from two points of view: "Firstly, criminality is a criminal dealing (legal view of criminality); secondly, the criminality is also the dealing or behaviour which is not defined as a crime in the Criminal Code, however such dealing or behaviour is pathological in the society (sociological view of criminality)".

Other group of researchers describes criminality from the social-ethical point of view as well. Lubelcová (2009) defines criminality from three points of view: "Firstly, social-ethical definition of criminality means a natural crime (it is bad from the natural character); it is oriented on the immediate personal contacts. The contrary of the natural crime is an artificial crime (what is prohibited). Secondly, the legal definition of criminality is criminality as a summary of the crimes committed in the society for certain period of time. The term criminality is limited by the criminal law. Criminality is such form of behaviour which is defined by subject matters of the crimes. Thirdly, the sociological definition of criminality says it is a social deviation, which is defined universally as the abnormality or the interruption of the social norms".

As we mentioned above, the rural criminality is not a very frequent research topic in Slovakia. Michálek (2010) assumes that this situation is a result of the opinions the criminality is joined with the urban areas and the urban regions; small towns and country are crime free. He stresses out that this opinion is not correct because the statistical data from more countries proved that criminality is not only a problem in the cities and urban areas. It is possible to observe criminality also in the rural areas which have been accepted as crime free zones for a long time. Nevertheless, the rate of criminality in the rural areas is getting higher and in some regions, criminality reaches such a high level that it causes serious social problems.

The British researchers (Marshall and Johnson, 2005) describe the rural specific crimes. The first ones are farm crimes related to thefts: "The expensive tools such as welders, chainsaws and power drills are regularly stolen from farmsheds. Larger items such as 4 x 4 vehicles, tractors and all-terrain vehicles (ATVs) are also at risk along with diesel needed to drive such vehicles (...) Theft of livestock can also be a problem in some areas (...) It seems possible that theft in rural areas, particularly from farms and other isolated properties, is qualitatively, as well as quantitatively

different from theft that occurs in urban areas." The second ones are environmental and wildlife crimes. "Although crimes against the environment do occur in urban areas, due to the isolation of many rural areas, environmental crime in the countryside can be particularly problematic" (Weisheit and Donnermeyer, 2000). "Such crimes include fly tipping, dumping of toxic waste, and illegal clearing of trees. It is estimated that simply clearing up other people's waste costs each farm an average of £300 a year. Wildlife crime encompasses a range of offences including trading in endangered species, poaching, and acts of animal cruelty such as badger baiting, and cock and dog fighting" (Marshall and Johnson, 2005).

According to Michálek (2010), Slovakia is characterised by a broad diversity of the countryside, the original mining areas in Spiš region, the regions of south Slovakia oriented on the agricultural plant production, northern Slovakia oriented on the animal production, rural areas with very under peopled regions and the segregate Romani settlements. "The Criminality of each of these regions is qualitatively and quantitatively different from the urban areas and each of them has its own unique profile".

2. Potential causes of rural criminality

According to knowledge from the scientific literature, we have tried to define the factors that cause the rural criminality in Slovakia. There are four groups of factors:

1. Geographical factors represented by the population density in the region per 1 km². We suppose that higher level of density in a rural region causes higher level of criminality in this region.
2. Demographical factors represented by the number of immigrants per 1 km² in the region. We suppose that because of more anonymity among the inhabitants, higher level of immigrants causes higher level of criminality.
3. Social factors represented by the number of divorces per 10,000 inhabitants in the region. We suppose that more broken families cause higher level of criminality.
4. Economic factors, such as:
 - a) unemployment rate in the region; we suppose that higher level of unemployment rate causes higher level of criminality,
 - b) average wages in the region; we suppose that higher average wages cause decrease of criminality,
 - c) number of employees in the tourism in the region; we suppose that more employees in the hotels and restaurants services mean more visitors in a rural region and the raising anonymity causes also the increase the level of criminality.

2.1 Population density and its impact on the criminality level

Population density represented by the number of inhabitants per 1 km² is considered as an independent variable. The dependent variable is index of criminality as number of crimes per 10,000 inhabitants in a rural region. The index of criminality was stipulated as an index of total criminality, an index of property criminality, an index of economic criminality and an index of violent criminality.

Table 1 Statistical significance between the population density and violent criminality in all rural areas

Summary output						
Regression statistics						
Multiple R	0.368754					
R Square	0.135979					
Adjusted R Square	0.123273					
Standard Error	3.948279					
Observations	70					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1	166.8298	166.8298	10.70183	0.001683	
Residual	68	1,060.045	15.5889			
Total	69	1,226.875				
	Coefficients	Standard Error	t Stat	P-value	Lower 95 %	Upper 95 %
Intercept	15.82072	1.197571	13.21068	1.89E-20	13.43101	18.21044
X Variable 1	-0.03517	0.010751	-3.27137	0.001683	-0.05663	-0.01372

Source: self-calculation

As to the results, there was not any statistical significance between population density and indexes of criminality; there was only less statistical significance (0.368) between the population density and the index of violent criminality (Table 1). The statistical significance between the population density and the violent criminality appeared when the list of the regions was created only from the rural regions with more than 50 % of inhabitants living in the rural areas (0.438).

The presented model explains only 13 % of variability in the index of the violent criminality in the rural areas. We can adopt the conclusion that there is a middle strong statistical significance between population density in the rural areas and violent criminality. This statistical significance is negative; it means that the increase of inhabitants in a rural region causes the decrease of violent criminality. However, the statistical significance between the population density and the violent criminality is much higher in the rural areas with more than 50 % inhabitants living in the rural areas. The statistical significance between other types of criminality and the population density was not proved.

2.2 Immigration and its impact on the criminality level

Immigration represented by the number of immigrants per 1 km² is considered as an independent variable. The dependent variable is index of criminality. We supposed that a high level of immigration causes the increasing of the total criminality. Our hypothesis was confirmed partially.

In our linear model a positive statistical significance between the number of the immigrants and the total criminality appeared; but it is not too strong (only 35 %). However, this statistical significance is much higher in the rural areas with the more than 50 % of population living in the country (49.99 %). The results are presented in the table 2.

We can make a conclusion that the immigration in the rural areas increases the criminality in the region. In case of property criminality, the statistical significance between immigration and property criminality was more intensive (66 %). We can state that the total criminality as well as property criminality is increased by the immigration to the rural areas, but the statistical significance between the economic and violent criminality was not proved in this case.

2.3 Divorces and its impact on the criminality level

Divorces, more specifically number of divorces per 10,000 inhabitants in a region are considered as an independent variable. The dependent variable is the index of total criminality. We suppose that more disorganised families cause the increase of total criminality. Our hypothesis was confirmed partially (table 3).

According to the table 3, there is a middle strong statistical significance (52 %) between criminality and divorces. The analysis between violent, economic and property criminality and divorces got similar results compared to the results in the table 3. The analysis in the rural areas with more than 50 % of inhabitants living in the country did not change the results compared to the results in the table 3. The coefficient of correlation was increased to 54 %.

We can conclude that divorces are one of the main important criminality factors as well.

2.4 Economic indicators and their impact on the criminality level

We assume that the economic factors are most important ones that could influence criminality. To these factors belong mainly unemployment rate, average wages and tourism.

2.4.1 Unemployment rate and rural criminality

Our first hypothesis was that higher unemployment rate in a region causes higher level of criminality. This hypothesis was not proved.

Table 2 Statistical significance between immigration and the index of total criminality in the rural areas with more than 50 % of population living in the country

Summary output						
Regression statistics						
Multiple R	0.499454					
R Square	0.249454					
Adjusted R Square	0.22801					
Standard Error	28.17485					
Observations	37					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1	9,234.302	9,234.302	11.63271	0.001649	
Residual	35	27,783.77	793.822			
Total	36	37,018.07				
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	137.0812	4.651866	29.46801	2.68E-26	127.6374	146.525
X Variable 1	28.75433	8.430682	3.410676	0.001649	11.63913	45.86952

Source: self-calculation

Table 3 Statistical significance between divorces and the index of total criminality in all rural areas

Summary output						
Regression statistics						
Multiple R	0.521844					
R Square	0.272321					
Adjusted R Square	0.26162					
Standard Error	31.54147					
Observations	70					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1	25,317.07	25,317.07	25.44776	3.61E-06	
Residual	68	67,650.77	994.8642			
Total	69	92,967.84				
	Coefficients	Standard Error	t Stat	P-value	Lower 95 %	Upper 95 %
Intercept	51.93065	18.63521	2.786696	0.006896	14.74467	89.11662
X Variable 1	4.765575	0.944693	5.044578	3.61E-06	2.880471	6.65068

Source: self-calculation

However, there was a weak statistical significance between the unemployment rate and the index of violent criminality (34 %) and the linear model (Figure 1) explains only 11.7 % of variability in the index of violent criminality in the rural areas.

Providing that the only the rural regions with more than 50 % of inhabitants living in the country are analysed, this statistical significance between unemployment rate and violent criminality disappeared.

2.4.2 Average wages and rural criminality

The second hypothesis is related to the average wages and the index of total criminality in the rural regions. The hypothesis was not confirmed when the analysis involved the index of total criminality.

The statistical significance appeared only between the average wages and the index of property criminality. This statistical significance is middle strong (46.28 %) and the linear model (Figure 2) explains only 21.4 % of variability in the index of property criminality in the rural areas.

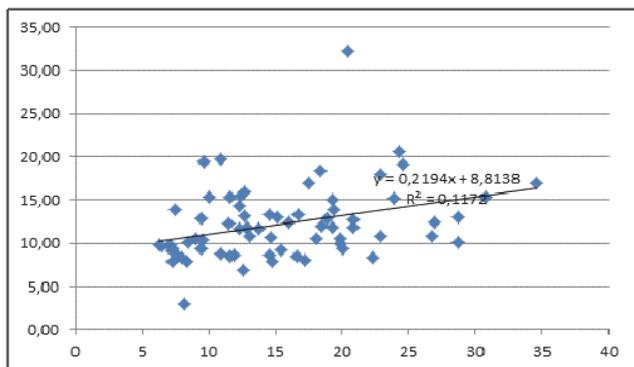


Figure 1 Unemployment rate and the index of the total criminality in the rural regions
Source: self-calculation

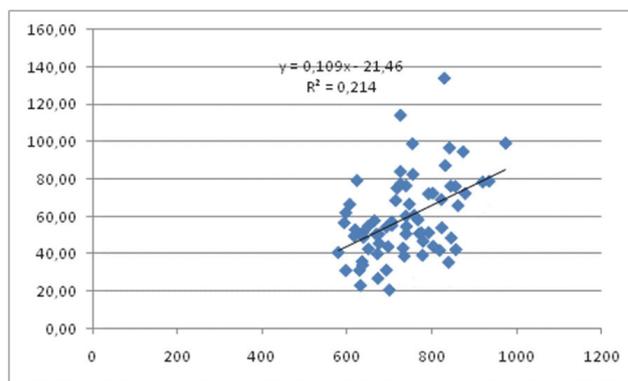


Figure 2 Average wages and the index of the property criminality in the rural regions
Source: self-calculation

We came to two interesting findings. Firstly, although we expected it to be negative, the statistical significance between the average wages and property criminality is positive; it means that higher level of wages causes higher level of criminality. Secondly, the level of statistical significance between the average wages and property criminality was raised in the semi-rural region. This statistical significance was 49 %.

We can conclude that a higher level of wages motivates people to a higher level of living standard and if the wages are not sufficient to receive it, people try to get it through the property crimes. This effort to reach a higher living standard is more visible in the semi-rural regions, mainly because of a close contact with the urban areas where living standards are higher. People compare their living standard with the living standard in the urban areas. If the wages are not sufficient enough to cover their needs for a better living standard, some of them do not hesitate to achieve it through the property criminality such as thefts, robberies etc.

2.4.3 Tourism and rural criminality

The third hypothesis is related to the tourism in the rural areas. Tourism development was measured by the number of employees in the tourism and services, such as in the hotels and restaurants. We suppose that more visitors cause higher level of anonymity in a region, which increases the level of criminality in this region.

The number of employees in the hotels and restaurants per one economic active inhabitant in a region is considered as an independent variable. The dependent variables are the index of total criminality and the index of property criminality. There is a middle strong statistical significance between these variables, especially between the number of employees in the hotels and restaurants and the property criminality (43 %). The results are presented in the table 4. However, we do our analysis in 48 regions only, due to the missing statistical data. An analysis in the rural and semi-rural regions was therefore impossible to provide.

Table 4 Tourism and property criminality in the rural areas

Summary output						
Regression statistics						
Multiple R	0.433521					
R Square	0.18794					
Adjusted R Square	0.170287					
Standard Error	21.3912					
Observations	48					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1	4,871.466	4,871.466	10.64607	0.002083	
Residual	46	21,048.83	457.5833			
Total	47	25,920.3				
	Coefficients	Standard Error	t Stat	P-value	Lower 95 %	Upper 95 %
Intercept	49.4421	5.166206	9.570291	1.61E-12	39.04306	59.84113
X Variable 1	16.98751	5.206371	3.262832	0.002083	6.507634	27.4674

Source: self-calculation

According to these results, we can conclude that the tourism development causes an increase of criminality, mainly the property criminality. Therefore it is necessary that the proprietors of the hotels, restaurants and other tourism facilities shall incorporate preventive measures against the criminality into their business strategies. The self-government in the potential touristic regions shall adopt the preventive measures against the criminality within the scope of its competences. Businessmen and self-governments are the bodies which are in the direct contact with criminality; they know the best what kind of measures are able to prevent criminality in their region. Their cooperation in the field of criminality prevention is very useful.

Conclusion

This paper informs researchers from various fields of studies about the needs to research rural criminality. Criminality research is important because it looks for the factors which act as the impulses to commit the crimes. Criminality has many factors which can be arranged in various groups, such as biological, psychological, sociological, economic, legal, political, cultural, geographical or demographical. For the purposes of this paper, we selected only some of them. The most important were population density, immigration, divorces and tourisms.

On the one hand, we believe that the rural criminality increase is caused by closer relations between the rural and urban areas, by new inhabitants or visitors coming to the rural areas and by reduction of the "mental distance" between the cities and countryside, which enables to compare the living standard and to arouse ambitions for higher quality of life. On the other hand, the system of the traditional values respected by original inhabitants in the rural areas that worked as a barrier to commit the crimes has been interrupted.

The self-government has a dilemma whether to support the villages' development regardless of a higher level of criminality or to eliminate their increasing relations to the urban areas. In our opinion, the rural development should be realized simultaneously with the adoption of the preventive measures against criminality. The self-governments are in the closest contact with local inhabitants and therefore they know their needs and troubles. In cooperation with state government, businessmen, police, non-governmental organisations, and school facilities, the self-governments should carry out preventive measures.

Nevertheless, in order to make conclusions and recommendations for businessmen, self-government or state government on how to prevent criminality in the rural areas, further research is necessary. Last but not least, it is necessary to bear in mind that the most expensive preventive measures are still cheaper than the cheapest repressive ones.

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