Criminality and Socio-Economic Status Correlation Determinants

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The effect of the economic situation in the country on criminality can be analyzed in two directions. 1) During economic downturn more people have motive to commit crime. Due to low socio-economic status more people commit property-related crimes (stealing, robbery, banditry). In this way, they try to obtain what they do not have. Socio-economic hardships also cause domestic or other types of violence. 2) It is also possible for more crimes to be committed during economic uptick, since in that case, more people own unnecessary luxury items, which make them more susceptible to robbery. The improved economic situation also increases the demand for alcohol and drugs, which is a specific factor and circumstance for creating criminality. The study considers the socio-economic situation of affects on criminality. We try to analyze if there is connection between social inequality and crime rates, whether the increased social inequality irreversibly increases crime rates and vice versa. Based on the determinants of the correlation between criminality and socio-economic situation, recommendations with the purpose of prevention the criminality are provided in the study. © 2021 Bull. Georg. Natl. Acad. Sci.
Studies also show that poverty has little effect on violent crimes, as opposed to inequality, which significantly affects violent crimes, while inequality has less effect on property-related crime rates than poverty [6]. Therefore, we set the investigation of determinants of the correlation between criminality and socio-economic situation as the goal of the study.

The study concerns: first, how the socio-economic conditions affect the crime rate, and second, the connection between social inequality and crime rate, and whether the growing inequality irreversibly increases the crime rate, and vice versa. We set determining the correlation between socio-economic conditions and criminality, and between social inequality and criminality as the task of the study.

The novelty of the study consists of coming up with the life quality index by the authors interpretation and calculating its slope model with Georgian criminality index.

**Methodology of the Study**

The study was planned via a triangulation approach, which means that several study methodologies were used. The procedural plan of the study was set as follows: 1) collection and processing the data; 2) Mathematical modelling; 3) Analysis/conclusion.

In order to obtain a single measure for the quality of life, we reduced all of the factors affecting it to a single measure, for which these factors were grouped into 3 blocks. We calculated the economics, social and ecological situation of the population according to measures included in each block, and by taking the geometric mean of these three results we obtained general indicator of the quality of life, which can be represented with the following formula:

\[ LI = \sqrt[3]{I_{econ} \cdot I_{soc} \cdot I_{ecol}}. \]

In order to calculate the quality of life using our method, we reduced the social, economic and ecological indicators to 10 basic indicators, and the mean of those can be used to determine the quality of life index. We calculate each of these indicator indexes by the following formula:

\[ I = \frac{x - \min(x)}{\max(x) - \min(x)}. \]

After the Georgian population quality of life index calculated in 2012-2020, we performed a regressive (slope) correlational analysis with the Georgian criminality index. For the regressive (slope) analysis, we used the following formula:

\[ b = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sum(x - \bar{x})^2}. \]

As for the formula used to determine the correlation between variables, it looks like this:

\[ \text{Correl}(X, Y) = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}}. \]

**Results and the Interpretation of the Study, Economic Situation, Social Inequality and Crime Rate.** Society tries to improve its own economic situation by perfecting production on every step of its development and to satisfy that way its own ever-increasing material and spiritual needs reflected in the population’s standard of living, which is an extremely important socio-economic category. In order to calculate the quality of life using our method, we reduced the social, economic and ecological indicators to 10 basic indicators. The mean of those can be used to determine the quality of life index, which in itself has correlation with the criminality index: 1) Income index; 2) Income inequality index; 3) Unemployment index; 4) Education index; 5) Longevity index (indicator of healthcare and demographic situation); 6) Money spent on groceries index; 7) Social provision index;
8) Security index; 9) Ecological situation index; 10) Human right index.

After calculating each of these indexes, we get the Georgian population quality of life index, which will be the geometric mean of the given indexes.

Table represents the registered crime, income per person, and the comparative analysis of the quality of life and criminality index. By the absolute indicator it is clear that the increase in income per person (in GEL) is not followed by the reduction of the registered crime rates, since income per person does not contain important indexes like income inequality and unemployment index.

During 2012-2020, the quality of life index reached its peak in 2019, and its lowest point in 2012. Analyzing these results by index, we can discuss the range of the quality-of-life development index in the country the following way: low advancement (0-0.5); average advancement (0.51-0.70); highly advanced (0.71-0.8); highest advancement (0.81-1.0).

According to Table 1, Georgia is within the average advancement range countries. Depending on the organization performing the calculation of the quality-of-life indicator, the subindexes are being changed by the study organizers, caused by the wide area of the study of the quality of life. We do not consider the index calculated by us to be a unique indicator which fully reflects the quality of life of the population, however, it is acceptable to represent the overall quality of life index in this way, which, through the addition of new indicators, creation of new index blocks and evolution will eventually equal to the index more accurately representing the quality of life of the population of the country.

According to the results of the existing sociological studies, a 1% increase in inequality is correlated to 0.2% increase in banditry, 0.28% increase in robbery, and 0.27% increase in automobile-related crimes [7]. Meanwhile, according to our study, as we can see from Table 1, there exists an inverse average correlation (-50.8%) between the quality-of-life index and the criminality index, while the regressive (slope) analysis show that when, during 2012-2020, the quality of life increased by 1%, the crime rate in the country dropped by 9.21%.

**Conclusion**

Judging by the results of the study, it can be concluded that the increase in income per person (in GEL) is not followed by the reduction of the

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<tbody>
<tr>
<td>Registered crime</td>
<td>38.736</td>
<td>43.028</td>
<td>36.526</td>
<td>35.096</td>
<td>35.997</td>
<td>37.944</td>
<td>58.412</td>
<td>64.123</td>
<td>56.596</td>
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<tr>
<td>Quality of life index</td>
<td>0.525</td>
<td>0.531</td>
<td>0.526</td>
<td>0.527</td>
<td>0.528</td>
<td>0.532</td>
<td>0.539</td>
<td>0.544</td>
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<tr>
<td>Criminality index</td>
<td>0.313</td>
<td>0.196</td>
<td>0.199</td>
<td>0.22</td>
<td>0.222</td>
<td>0.208</td>
<td>0.204</td>
<td>0.199</td>
<td>0.202</td>
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<tr>
<td>Correlation</td>
<td>-50.80%</td>
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<tr>
<td>Slope</td>
<td>-9.21%</td>
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*Data regarding the registered crimes and income per person (GEL) were obtained from the Georgian National Statistics Service website, while the quality of life index, their correlation and slope were determined by the authors.*
registered crime rates, since income per person does not contain important indexes like the quality of life index. We constructed the Georgian population quality of life index in 2012-2020 based on calculating the Human Development Index, and the peak of this index was registered in 2019 and the lowest point – in 2012, and the average value of the index was 0.5325, which puts Georgia in the average advancement in 2012-2020. There exists an inverse average correlation (-50.8%) between the quality of life index and the criminality index, while the regressive (slope) analysis show that when, during 2012-2020, the quality of life increased by 1%, the crime rate in the country dropped by 9.21%.

Criminological and socio-economic studies have shown [8] that in the country, the politics aimed at preventing and fighting anti-social-justice phenomena and improving the quality of life of the population must be conducted by advancing the political, economic, social and environmental factors, which will naturally be followed by crime prevention and crime index improvement.
სამართალი და სოციალურ-ეკონომიკური მდგომარეობის ურთიერთდამოკიდებულების დეტერმინანტები

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**საქართველოს კრიმინოლოგიის ინსტიტუტის პრივ. დ. ტ. თ. კარტაშვილი

ქვეყანაში არსებული ეკონომიკური ვითარების გავლენა დანაშაულის მიმართულებით შეიძლება გაანალიზდეს. პირველი – ეკონომიკური დაღმავლობის პერიოდში უფრო მეტი ადამიანს აქვს მოტივი, რომ ჩაიდინოს დანაშაული. დაბალ ისოციალურ-ეკონომიკური მდგომარეობის გამო უფრო მეტი ადამიანი ჰქონა დანაშაულის საშუალეოდ წინააღმდეგ (ახდენა, ჭირდარი, მამაკაცი). ამ გზით ადამიანთმა გამოიწვია, რომ მეცნიერებად მათ არ აქვთ სოციალურ-ეკონომიკური სასულიერობა ფუნქცია, მათი სტატუსი უფრო ხელმისაწვდომი მიჩნება.

მეორე, რაც კადერი სოციალურ-ეკონომიკურ მდგომარეობის გამო უფრო მეტი ადამიანი ფლობს ჭარბ ფუფუნების საგნებს. ეს ისინი უფრო ღონისძიებიან და გარემოების წარმოშობას გაუმჯობესებენ. სოციალურ-ეკონომიკური მდგომარეობა ამიტომად ფაქტობს კონკრეტულ ფაქტობს და გარემოებას წარმოადგენს.

ქვეყანაში, სოციალურ-ეკონომიკური მდგომარეობის ოროქისათვის დროში მონაწილის სოციალურ-ეკონომიკური საფუძველზე ნაშრომში მოგვწერა, რომ იქნებოდა საკუთრების წინააღმდეგ და ახალი მოთხოვნები აღემდენით. შესაბამისად, სოციალურ-ეკოномიკური მდგომარეობის ურთიერთდამოკიდებულებამ დანაშაულის პრევენციის მიზნით დასკვნით რეკომენდაციები.
REFERENCES


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