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Is crime in Turkey economically rational?

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Abstract

The study investigates whether crime in Turkey is governed by economic rationality. An economic model of rational behaviour claims that the propensity to commit criminal activities is negatively related to risk of deterrence. Potential presence of higher risk profiles for certain population segments is investigated. Panel data aggregated to sub-regional levels and observed annually for the years 2008 to 2010 are applied. Controls for endogeneity among criminal activity level and risk of deterrence, intra-regional correlation, inter-temporal heterogeneity and spatial spillover are exerted. A positive effect of risk of deterrence on criminal activity is found which conflicts with the hypothesised economic rationality. Certain population segments are identified as obvious target groups for regional policy initiatives aiming to reduce criminal activities. These are in particular unemployed and males. On the other hand, educational attainment, poverty and youngsters are less obvious target groups, while the relationship between population density and crime is ambiguous. Finally, spatial spillover patters related to criminal activities seem to be highly relevant, thus implying that while initiatives toward criminal activities may well be formed at the regional level, coordination across regions might obviously be called for.

JEL Classification: K42, C21, C23

Keywords: Crime, risk of deterrence, Turkey, panel data, spatial spillover

1. Introduction

The investigation of determinants of crime is important not only because of the serious nature of the problem in itself but also in terms of public policy implications (income, immigration, employment, etc.). The study of Becker (1968) represents a starting point of the economics of crime. His paper explains how changes in the probability and severity of punishment can alter the individual's decision to commit crime. Later, Ehrlich (1973) extended the Becker model by considering how individuals divide their time between illegal and legal activities. If legal income opportunities are scarce relative to the potential benefits of crime, people allocate more time to illegal activities and crime is likely to occur. Since then, an extensive empirical literature has attempted to test the central results of the Becker-Ehrlich model for a number of countries. These studies has focused on Canada (Avio and Clarke, 1976), Finland (Wahlroos, 1981), UK (Car-Hill and Stern, 1973; Wolpin, 1978), Australia (Withers, 1984; Bodman and Maultby, 1999), US (Trumbull, 1989; Cornwell and Trumbull, 1994; Baltagi, 2006), New Zealand (Small and Lewis, 1996; Papps and Winkelman, 1998), Italy (Marselli and Vannini, 1997; Buonanno and Leonida, 2006), Sweden (Sandelin and Skogh, 1986), Germany (Entorf and Spengler, 2000), Poland (Lauridsen, 2010), the Baltic countries (Lauridsen, 2009) and Norway (Aasness et al., 1994).

This formal literature estimates the supply of crime employing different types of data set (aggregate data, cross-sectional data and panel data) where the crime rate is related to some deterrence as well as socio-economic and demographic variables. So far, the empirical literature has provided mixed evidence; see Eide (2000) for a review. More recently, some papers have addressed the importance of controlling for other socio-economic factors in the criminal behaviour, such as drug abuse (Entorf and Winker, 2001), guns possession (Miron, 2001), juvenile delinquency (Mocan and Rees, 1999), income inequality (Fajnzylber et al., 2002), immigration (Butcher and Piehl, 1998), social

capital (Dilulio, 1996), minimum wages (Hansen and Machin, 2003) and home ownership (Lauridsen et al, 2013).

Several behavioral theories contribute to explain the relationships between crime and economic conditions (Croall, 1998; Britt and Chester, 1994). Motivation theory argues that individuals are prone to committing crimes during recession because income levels are reduced. Crime rates increase during economic depression because consumption is reduced and unemployment increases. Thus, motivation theory argues that there is a positive relation between adverse economic conditions and crime. If an unemployed person believes that illicit money to be gained by criminal offense is worth the criminal liability to be imposed after breaking law, the person will be more likely prone to criminal activities. Furthermore, opportunity theory argues that increased income and number of goods in circulation during period of economic growth creates the opportunity of committing a crime. The number of goods in circulation increases in parallel to the income increases. This increases the opportunity of committing a crime. Opposed to the motivation theory, the opportunity theory argues that crime rates will be lower in case of adverse economic conditions. People who lose their jobs during recession are forced to spend most of their times at home, whereby the possibility of being involved in a crime outside the house or being the victim of a crime will be reduced. These two theories reveal the complexity of the relationship between crime and economy. However, the studies on the context of economic structure and crime association generally confirm that unemployment and poverty increase the crime rates.

Problems related to criminal activity are highly relevant from a regional policy perspective. Criminal activity is commonly seen to be a phenomenon that varies strongly across regions of any country. Furthermore, criminal activity is something that can be learned through a social interaction process. It is very likely that criminality in one region can affect criminality in neighbour regions.

This diffusion process of criminality implies that a spatial dependence or a spatial spillover exists among cities or areas. Such effects have been identified by Cohen and Tita (1999), Baller et al. (2001), Messner and Anselin (2002), Buttner and Spengler (2003), and Puech (2004). Conceptually, such spatial spillover may assume two potential forms. One form is an endogenous spillover, i.e. a high criminal activity in a certain area in itself leads to high criminal activity in neighbour regions. Another form is exogenous spillover which is related to spatial clustering of determinants of crime. Thus, if there is a high concentration of risky population segments in a certain area, then the criminal activity will be high, not only in this region but also in neighbour regions.

The present study examines the determinants of crime rates in Turkey based on data aggregated to sub-regional levels during the period 2008 to 2010. Data were collected from the Turkish Statistical Institute. Certainly, data availability at the regional level puts some restrictions on the set of determinants which could be included. The study thus includes the key variable risk of deterrence. Further, some variables are included to control for varying risk profiles across certain population segments. These are poverty level, education, young people, males, population density, and unemployment.

While the set of variables extracted is somewhat narrow, it corresponds well to suggestions of existing evidence. The effect of risk of deterrence is well documented for US (Levitt, 1996; Levitt, 1997, Levit, 1998; Corman and Mocan, 2000) and Western Europe (Edmark, 2005; Entorf and Spengler, 2000; Buonnano et al., 2006). However, the causal relationship among deterrence and crime rates is ambiguous in an aggregate setting. Obviously, a high deterrence rate of a region reduces the crime rate of the region, as the opportunity cost of committing crime goes up. On the other hand, it may well be the case that a high crime rate in a region stimulates policy initiatives to raise the deterrence rate.

Wealth is identified as another key determinant, however, with an ambiguously signed effect. One argument is that high incomes lead to higher opportunities of people to engage in legal activities. On the other hand, high incomes may serve as a proxy for illegal opportunities, as wealthy areas may be more attractive for criminals (Ehrlich, 1973; Entorf and Spengler, 2000). The unemployment rate is a central part of models of criminal activity since Becker (1968) and applies as a measure of lack of social capital and legal income opportunities. Education may furthermore be an important determinant of criminal activity. Specifically, higher educational attainment increases the opportunity cost of crime, as the expected loss from deterrence becomes higher. Recent research tends to support that education is negatively related to crime (Buonnano et al., 2006). Gender is known to exert an influence. Males, in particular young males, are known to possess a higher risk profile (Witte, 2002), and young people might in general have a lower opportunity cost of committing crime. Urban areas with high population densities are furthermore commonly seen to have higher crime rates than rural areas, even after controlling for socioeconomic characteristics of the areas.

From a regional policy perspective, these selected determinants are highly relevant, as most of them may be - more or less – affected by regional policy initiatives. Such policy initiatives may readily aim to reduce unemployment, increase income or stimulate educational attainment. Other initiatives or interventions may be targeted toward risky population segments, for example information campaigns directed toward young people, initiatives to stimulate the integration of immigrants etc.

Pooled data are analysed in order to allow for more variability and to improve efficiency of estimation. Thus, a Seemingly Unrelated Regression approach is called for in order to account for intra-regional heterogeneity and inter-temporal correlation. Further, as data are observed at sub-regional levels, the potential presence of spatial spillover as discussed above has to be controlled

for. Finally, the above mentioned potential endogeneity among the risk of deterrence and crime rates needs attention. The study aims for doing this by applying an instrumental variable estimation.

The outline of the study is as follows. Next to the above presentation of problems related to investigation of criminal activity and its determinants, Section 2 outlines the methodological approaches called for. Section 3 briefly presents the data to be applied for the study. After this, empirical results are presented and discussed in Section 4. Finally, Section 5 rounds off by extracting the essential conclusions of the study. It is beyond the scope of the presentation to go into closer details regarding the nature of crime in Turkey and to compare Turkey to other European countries. However, for those interested in such, a brief exposition is presented in the Appendix.

2. Methodology

The point of departure is a linear regression model defined for each year for the *N*=81 sub-regions by

$$y_t = X_t\beta + \upsilon_t, \quad \upsilon_t \sim N(0, \sigma^2 I) \tag{1}$$

where X_t is an *N* by *K* dimensional matrix of *K* explanatory variables, y_t an *N* dimensional vector of endogenous observations, and β a *K* dimensional coefficient vector. While pooled data for *T*=3 years are applied, the residuals between years are correlated, and the variances within each year will vary across years, i.e. between any two years, the residual covariance reads as

$$E(\upsilon_t'\upsilon_s) = \sigma_{ts}^2 \quad t, s = 1,..,T\,. \tag{2}$$

To obtain efficient estimates of β, we apply Feasible Generalised Least Squares (F-GLS) estimation to obtain the Zellner (1962) Seemingly Unrelated Regression (SUR) estimates for β.

As the model is estimated using sub-regional data, spatial dependencies between the sub-regions have to be taken into account. It is intuitively clear that crime is not restricted to realise itself within a single sub-region, but rather flows over the sub-regional borderlines. Operationally the crime rate (y_t) may not only be determined by the explanatory variables in the sub-region itself (X_t), but also by values of X_t in the surrounding sub-regions. Further, if the criminal activity in the surrounding sub-regions is high, this activity may spill over and induce criminal activities in the sub-region in question. Alike any other omission of relevant variables, ignorance of spatial spillover may bias the results obtained (Anselin, 1988). Operationally, spatial spillover is specified as part of the residuals thus obtaining the spatially autocorrelated (SAC) specification (Anselin, 1988)

$$y_t = X_t\beta + \varepsilon_t,\ \varepsilon_t = \lambda\varepsilon_t^W + \upsilon_t. \qquad (3)$$

where λ is a parameter specifying the magnitude of spillover, formally restricted to the interval between (-1) and (+1), but for most practical purposes restricted to be non-negative, while ε_t^W denotes the average of ε_t in the neighbouring sub-regions. Combining the features of the SUR specification (1)-(2) with the SAC specification (3) leads to an integrated specification conveniently denoted the SAC-SUR.

Next, potential endogeneity among crime rate and risk of deterrence has to be accounted for. This is done by applying a two-stage least squares instrumentalisation. Specifically, the risk of deterrence is in a first step regressed on the lagged values of crime rates and predicted values of risk of deterrence obtained. In the second step, the above estimations are performed, replacing risk of deterrence with these predicted values.

3. Data

Data on crime rates and the explanatory variables were obtained at sub-regional level. Data were available for the years 2008 to 2010. Table 1 provides full definitions of variables, together with descriptive statistics.

Table 1. Definition of variables and descriptive statistics

Variable	Definition	Mean	Std. Dev.
Crime rate	New cases brought to the Chief Public Prosecutors' Office per 10,000 inhabitants	392.02	92.71
Risk of deterrence	Number of convicts received into prison per 10,000 inhabitants	10.55	5.32
Predicted risk of deterrence	Risk of deterrence, predicted from previous year's crime rate	10.55	3.33
Poverty	Percentage of population below poverty rate (rate=60 percent)	19.99	1.90
Education	Number of graduates in higher education per 10,000 inhabitants	72.42	196.06
Percentage 20-29	Percentage of 20-29 year old	17.27	1.98
Percentage males	Percentage of males	50.41	0.01
Population Density	Number of inhabitants per square kilometre	112.90	270.12
Unemployment	Unemployment rate	11.05	4.13
Georgia	Indicator for being neighbour to Georgia	0.04	0.19
Armenia	Indicator for being neighbour to Armenia	0.02	0.16
Iran	Indicator for being neighbour to Iran	0.05	0.22
Iraq	Indicator for being neighbour to Iraq	0.02	0.16
Syria	Indicator for being neighbour to Syria	0.07	0.26
Greece	Indicator for being neighbour to Greece	0.01	0.11
Bulgaria	Indicator for being neighbour to Bulgaria	0.02	0.16
Regional level	81 sub-regions		
Source	Turkish Statistical Institute – Regional Statistics		

The crime rates of the Turkish provinces for 2008 are shown in Figure 1. It is seen that the highest crime rates are found in the South-west region and South coast of Turkey. These provinces are

known to have the highest urbanisation rates. Likewise, the young age population and the education level are also very high in these regions as in the capitol area. Besides, there are large migration rates to the cities of these areas. On the other hand, there are strong traditional family structures in the South-East, East and Central Anatolian regions. Furthermore, the cultural and religious characteristics of these areas are protected and binding, and agricultural activities and animal breeding are the essential economic activities in these regions.

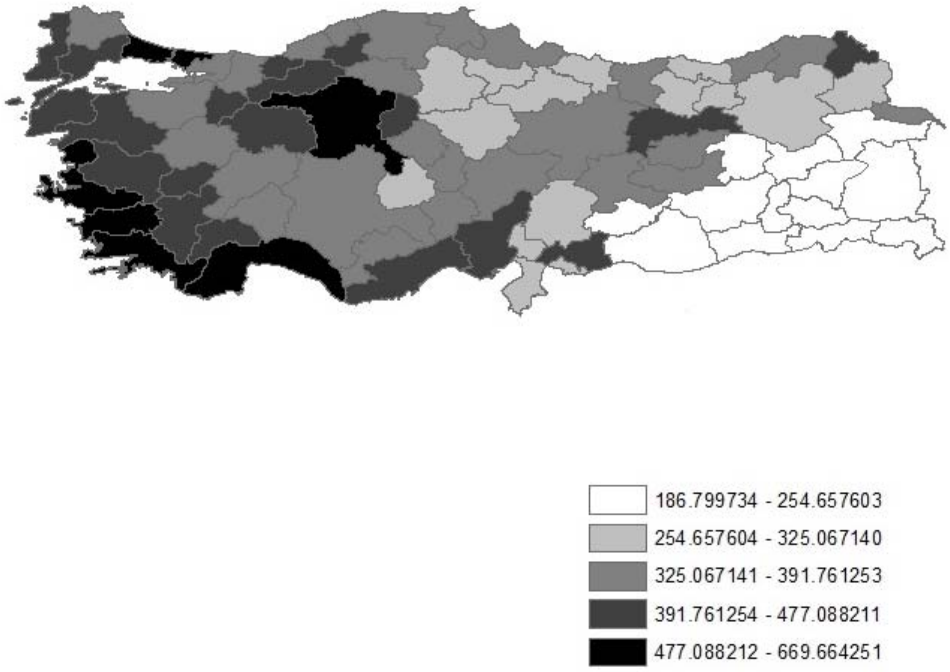

Figure 1: Spatial distribution of crime rates (per 10,000 inhabitants) for 2008

4. Results

The empirical estimation of a baseline pooled ordinary least square (OLS) model (i.e., unadjusted for intra-regional correlation, inter-temporal heterogeneity and spatial spillover) is provided by the

second column of Table 2. The third column of Table 2 reports results for the SAC-SUR model (i.e., adjusted for intra-regional correlation, inter-temporal heterogeneity and spatial spillover), while finally a SAC-SUR (adjusted for endogeneity between risk of deterrence and crime rate) appears in the fourth column.

Table 2. Estimated models for crime rate.

Variable	OLS	SAC-SUR	SAC-SUR (instrumentalised)
Constant	-8.20 (-2.38)**	0.27 (0.07)	-0.05 (-0.04)
Time trend	0.07 (4.69)***	0.09 (6.85)***	0.05 (4.57)***
Risk of deterrence	0.19 (7.95)***	0.02 (1.14)	0.67 (40.15)***
Poverty	-0.04 (-0.31)	-0.07 (-0.85)	-0.04 (-0.69)
Education	0.06 (3.38)***	0.04 (2.09)**	0.01 (0.82)
Percentage 20-29	-0.90 (.4.27)***	-0.61 (-2.20)**	-0.27 (-3.21)***
Percentage males	4.02 (4.10)***	1.78 (1.50)	1.28 (3.41)***
Population Density	0.04 (2.48)**	0.01 (0.33)	-0.001 (-0.08)
Unemployment	0.02 (0.68)	0.05 (1.88)*	0.03 (2.07)**
Georgia	0.05 (0.71)	0.08 (0.65)	0.03 (1.28)
Armenia	0.11 (1.36)	0.12 (0.88)	0.05 (1.50)
Iran	-0.14 (-2.33)**	-0.08 (-0.84)	-0.01 (-0.40)
Iraq	0.02 (0.19)	0.01 (0.11)	-0.01 (-0.21)
Syria	-0.08 (-1.76)*	-0.06 (-0.69)	0.03 (1.73)*
Greece	0.07 (0.53)	0.30 (1.62)	0.08 (1.87)*
Bulgaria	-0.08 (-0.89)	-0.19 (-1.18)	-0.08 (-2.34)**
Spatial spillover (λ)	NA	0.45 (3.95)***	0.43 (3.72)***
Number of observations	243	243	243
R-Square	0.56	0.38	0.89

Note. T-values in parentheses. Significance indicated by ***(1%), **(5%), and *(10%)

Throughout, all variables (except the constant term and the time trend) enter estimation in log transforms. The simple OLS results seem to provide evidence of a positive and statistically significant relation between crime rate and risk of deterrence, while the SAC-SUR results indicates that the effect of risk of deterrence on crime rate is not significant. The final SAC-SUR instrumentalises risk of deterrence with lagged crime rate, whereby endogeneity among risk of

deterrence and crime rate should accounted for. However, the results from this specification re-establish the former counter-intuitive positive of risk of deterrence on crime rate. Thus, the hypothesised negative link between risk of deterrence and crime rate is not confirmed, thus indicating that criminal activity in Turkey is less governed by economic rationality.

Next, the final column of Table 2 points to a positive time trend in the crime rates which indicates that the crime rate increases with approximately 5 percent per year. Further, the table provides evidence regarding varying risk profiles across certain population segments. A positive relationship between percentage of males and crime rates is consistently reported. Thus, policy initiatives directed toward areas with an excess of male inhabitants is something that should be considered for the case of Turkey. Poverty seems not to be related to level of criminal activity. This conflicts the arguments of Ehrlich (1973) and Entorf and Spengler (2000) who pointed out that income may be a proxy for illegal income opportunity, while it partly can be seen as a support for the argument of Trumbull (1989) that high incomes should provide more opportunities for engaging in legal activities. For the present case, a potential policy implication should be that stimulating wage increases is not a particularly important initiative. Rather, other aspects of social capital are more important target variables for policy initiatives. Thus, unemployment is, as expected and in accordance with the arguments and outcomes of previous studies (Entorf and Spengler, 2000; Small and Lewis, 1996; Papps and Winkelman, 1998), positively related to crime rates, i.e., an increase in unemployment leads to a fall in the opportunity cost of criminal activity. Percentage of males appears to be positively related to crime rate, which indicates that policy initiatives might be targeted toward regions with an excess of male population. On the other hand, education and percentage of youngsters does not appear to be unrelated to crime rates. Further, crime rates do not seem to be higher in regions on the border line. Finally, a strong positive spatial spillover is reported. However, this spillover is not statistically significant when adjusting for the endogenous

relationship between crime rates and risk of deterrence. This result does not necessarily imply that spatial spillover effects are not in play; the regions forming the basis of the study are relatively large, and it may well be the case that a division into smaller observational regions may reveal the expected significantly positive spatial spillover.

5. Conclusions

The study shows that crime in Turkey is governed by economic rationality, i.e. that the propensity to commit criminal activities is negatively related to the risk of deterrence. Thus, local efforts to increase the rate of deterrence indeed pay off. However, this conclusion does not occur for free. The necessity of adjusting for endogeneity among risk of deterrence and criminal activity is underlined, as an unadjusted specification lead to erratic conclusions in the form of positive relationship.

Further, potential presence of higher risk profiles for certain population segments is shown. These profiles correspond to some extent to what is obtained by previous empirical studies based on European data. Specifically, it is found that urbanisation, high proportions of young people and high unemployment rates are driving forces for criminal activity. Thus, from a regional policy perspective, initiatives aiming to reduce unemployment are worth considering. Likewise, policy initiatives and campaigns aiming to reduce criminal activities in urban areas and among youngsters may pay off. On the other hand, crime rates seem to be less related to educational attainment, percentages of foreigners and percentages of males. Thus, these population segments do not seem to be the most obvious target groups for policy initiatives.

Next, turning focus to policy recommendations aiming at reducing crime rates in Turkey, income inequality should be prevented. Population growth rate should be reduced, and job opportunities in underdeveloped regions should be improved by targeted regional development policies adopted for preventing rural depopulation. The legislations governing scope of criminal offences should be

improved, and insufficiency in applying criminal sanctions should be eliminated. In other words, laws should potentially be more deterrent. In conclusion, the high amount of illicit money one can earn from criminal activities in Turkey is one of the leading reasons why individuals turn into crime. Thus, a policy depriving criminals from illicit money should be adopted.

Finally, potential presences of spatial spillover patterns in criminal activity are shown to be less relevant aspects. From a regional policy perspective, this implies that while initiatives and policies directed toward criminal activities may well be formulated on a regional level, coordination across regional borders of such an effort would be highly recommendable.

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Appendix. Socio-Economic Structure and Crime Rates in Turkey: a description

Turkey experienced a drastic increase of crime rates recently, especially in 2006 and following years.

Table 3: Prison Population in Turkey

Years	Total	Increase
1997	60 843	NA
1998	66 096	0.086
1999	67 676	0.024
2000	50 628	-0.252
2001	55 804	0.102
2002	59 512	0.066
2003	63 796	0.072
2004	58 016	-0.091
2005	55 966	-0.035
2006	70 524	0.260
2007	90 732	0.287
2008	103 435	0.140
2009	115 920	0.121
2010	120 194	0.037
2011	128 253	0.067

Source: Turkish Statistical Institute

As seen from Table 3, there were 55.966 criminals in the prisons in 2005 whereas the number of criminals increased by 26 % in 2006 and reach up to 70524 people and the total number of criminals was increased by 28 % in 2007, in comparison to the numbers of 2006, and reached up to 90732 people. The crime rates continued to increase in 2008 and have been increasing since then but the increase rate in question is at lower ratios. From 1997 to 2011, the number of total criminals increased by 110 %. However, the total crime rate decreased in 2000, 2004 and 2005.

The number of criminals to total population ratio in Turkey stayed within a range of 0.06 to 0.02 from 2001 until 2010. Although it is generally observed that the number of criminals in the total population has being increasing year by year, the ratio in 2006, 2007 and 2008 was at a level of 0.014.

Table 4: Ratio of crime population to total population

	Bel-gium	Den-mark	Greece	Italy	Luxem-bourg	Hun-gary	UK	Ger-many	Switzer-land	Czech Rep.	Por-tugal	Tur-key
2001	0.092	0.088	0.040	0.038	0.051	0.046	0.093	0.077	0.044	0.035	0.036	0.006
2002	0.096	0.091	0.040	0.039	0.058	0.041	0.101	0.079	0.049	0.036	0.038	0.007
2003	0.095	0.090	0.040	0.043	0.058	0.041	0.101	0.080	0.052	0.035	0.040	0.007
2004	0.095	0.088	0.037	0.042	0.059	0.041	0.094	0.080	0.053	0.034	0.040	0.008
2005	0.094	0.080	0.041	0.044	0.054	0.043	0.092	0.078	0.047	0.034	0.037	0.010
2006	0.095	0.078	0.042	0.047	0.055	0.042	0.090	0.077	0.045	0.033	0.038	0.014
2007	0.096	0.082	0.038	0.049	0.059	0.042	0.081	0.076	0.043	0.035	0.038	0.014
2008	0.095	0.087	0.037	0.045	0.058	0.041	0.077	0.074	0.042	0.033	0.041	0.014
2009	0.097	0.089	0.034	0.044	0.065	0.039	0.070	0.074	0.087	0.032	0.040	0.018
2010	0.096	0.085	0.030	0.043	0.060	0.045	0.067	0.073	0.084	0.030	0.040	0.021

Source: Eurostat and World Bank

As seen in Table 4, when compared to some European countries, the number of criminals to the total population ratio is less in Turkey. Belgium has the highest ratio among all the countries indicated on Table 2 with a rate of 0.09. Denmark, England and Switzerland can be listed as other countries having a higher criminal/population ratio. In Greece, Hungary, Czech Republic and Portugal, the number of criminals/population ratio is relatively lower and close to each other.

Unemployment, poverty, population growth and urbanization might have impact on the crime rates in Turkey. On the other hand, although poverty is considered to be an important factor, it is a well-known fact that well-educated and wealthy people are involved in illegal activities. Besides, these are more organized groups. There are also crimes committed under the cover of the elite class.

Regardless of the national (2000-2001) and international (1997 and 2008) depressions suffered recently, Turkey has achieved a significant momentum in terms of economic growth. For example,

GDP growth rate was 9.3 % in 2004 and 8.7 % in 2011. However, the income inequality and regional differences in the level of development are material issues in the country. Thus, people emigrate from rural areas to metropolitans. People immigrating to the metropolitans cannot find jobs because of rapid population increases in these cities. Some work for shadow sectors. Besides, people feel estranged from the urban culture and have difficulties adapting to the city life. Individuals might also suffer from physiological issues because of such problems and these issues pave the way for illegal activities. Money has become more and more important factor in Turkey because of income inequality and the society started to consider having great fortune as the key of earning respect, rather than being knowledge, educated.

Turkey also suffers from a very high level of poverty and this ratio cannot be reduced despite the economic growth. For example, the poverty rates in 2007, 2008, 2009, 2010 and 2011 were respectively 22.8 %, 23.7 %, 23.8 %, 23.5 % and 22.6 %. The unemployment rates in 1985, 1995, 1997, 2002, 2005, 2009 and 2011 where respectively 11.1 %, 7.5 %, 6.8 %, 10.3 %, 10.6 %, 14 % and 9.8 %. It is expected that unemployment rates, which are generally at higher levels, will be a material determinative of crime rates. Having a good job does not only mean earning income but also ensuring peaceful and comfortable lives of families and facilitating achieving goals and desires in life. Thus, losing one's job might have economic, social and physiological impacts on the individual and the individual might be prone to criminal activities. Moreover, we might say that the rapid population growth in Turkey increase unemployment and thus increase the likelihood of being involved in criminal activities. For example, population density numbers in Turkey were 78.4 people, 82.08 people, 88.02 people and 94.92 people, respectively in 1997, 2000, 2005 and 2011. Rapid population growth prevents individuals from receiving higher shares of welfare. Also, this increases the needs of housing, healthcare, education and infrastructure.

Turkish government tries to prevent crime. For example, the number of police officers is increased for the purpose of preventing crimes by increasing the possibility of being caught. Besides, reduced sentences offered for honor killings are cancelled. Generally, the sentences are aggravated and there have been legal arrangements for eliminating the conflicts or deficits related to the laws. However, there is a long way to go in terms of proceedings and sentences. For example, the recent repentance laws offering stay of execution or release on probation, excluding crimes against the state, were enacted in 2000 and 2002. Although this Act was available for crimes committed before the date of April 23, 1999, the annulment decision announced by the Supreme Courts expanded the scope of this Act and accordingly, lawsuits filed against 4 thousand 715 people were postponed in 2005. As a result, approximately 45 thousand people got out of jail. It is known that the governments have been enacting a repentance law every 6.5 years, in average, since the proclamation of the republic. This fact clears away the belief that crime will be punished and thus theory of criminal deterrence is impaired.