yönetim ve ekonomi araştırmaları dergisi
journal of management and economics research

Cilt/Volume: 20 Sayı/Issue: 3 Eylül/September 2022 ss. /pp. 253-275
Ü.Yıldız, E. Kabakçı Günay, G. Günsoy, B. Günsoy http://dx.doi.org/10.11611/yead.1106685

SOCIOECONOMIC DETERMINANTS OF ECONOMIC CRIMES IN TURKEY: DYNAMIC PANEL DATA ANALYSIS

Asst. Prof. (Ph.D.) Ümit YILDIZ *

Asst. Prof. (Ph.D.) Eylül KABAKÇI GÜNAY **

Prof. (Ph.D.) Güler GÜNSOY ***

Prof. (Ph.D.) Bülent GÜNSOY ****

ABSTRACT

Individuals or criminal organizations carry out various criminal activities in all countries of the world with illegal methods to gain unfair economic benefits. With theft, bribery, and fraud being in the lead, many types of economic crimes disrupt the economic and social order of the society, damage mutual trust between individuals, and feed the informal economy. This study aims to determine the relationship between economic crimes and socioeconomic factors. Within the scope of the study, panel data of 26 sub-regions in the Statistical Regional Units Classification-II (İİBS-II) of Turkey for the period of 2008-2019 were analyzed with dynamic panel data methods and the socioeconomic determinants of 10 different crimes representing economic crimes in the literature were put forward. Based on the results of the study, it is observed that the gross national product per capita, unemployment, educational status, population density, and net migration, which are among the socioeconomic factors included in the analysis, have statistically significant effects on the economic crime rates.

Keywords: *Economic Crime, Panel Data Analysis, Socioeconomic Factors.*

JEL Codes: *C23, J19, K42.*

* Bayburt University, Faculty of Economics and Administrative Sciences, Department of Economics, Bayburt/Türkiye, E-mail: umityildiz@bayburt.edu.tr.

** İzmir Demokrasi University, Faculty of Economics and Administrative Sciences, Department of Economics, İzmir/Türkiye, E-mail: eylul.kabakci@idu.edu.tr.

***Anadolu University, Faculty of Economics, Department of Economics, Eskişehir/Türkiye, E-mail: gcinier@anadolu.edu.tr

****Anadolu University, Faculty of Economics, Department of Economics, Eskişehir/Türkiye, E-mail: bgunsoy@anadolu.edu.tr.

Makale Geçmişi/Article History

Başvuru Tarihi / Date of Application : 21 Nisan / April 2022

Düzeltme Tarihi / Revision Date : 20 Haziran/ June 2022

Kabul Tarihi / Acceptance Date : 12 Eylül / September 2022 **Araştırma Makalesi/Research Article**

Yönetim ve Ekonomi Araştırmaları Dergisi / Journal of Management and Economics Research
Cilt/Volume: 20 Sayı/Issue: 3 Eylül/September 2022 ss. /pp. 253-275
Ü.Yıldız, E. Kabakçı Günay, G. Günsoy, B. Günsoy http://dx.doi.org/10.11611/yead.1106685

TÜRKİYE'DE EKONOMİK SUÇLARIN SOSYOEKONOMİK BELİRLEYİCİLERİ: DİNAMİK PANEL VERİ ANALİZİ

ÖZET

Şahıslar ya da suç örgütleri haksız ekonomik çıkar sağlamak amacıyla ve yasal olmayan yöntemlerle ve dünyanın bütün ülkelerinde çeşitli suç faaliyetleri gerçekleştirmektedir. Hırsızlık, rüşvet ve dolandırıcılık başta olmak üzere çok sayıda ekonomik suç türü toplumun ekonomik ve sosyal düzenini bozmakta, bireyler arasındaki karşılıklı güveni zedelemekte ve kayıt dışı ekonomiyi beslemektedir. Bu çalışmanın amacı ekonomik suçların sosyoekonomik faktörlerle ilişkisinin belirlenmesidir. Araştırma kapsamında 2008-2019 dönemi için Türkiye'nin İstatistiki Bölge Birimleri Sınıflandırması-II'de (İİBS-II) yer alan 26 alt bölgeye ait panel veriler dinamik panel veri yöntemleri ile analiz edilmiş ve literatürde ekonomik suçları temsil eden 10 farklı suçun sosyoekonomik belirleyicileri ortaya konulmuştur. Çalışmanın sonuçlarına göre analizde yer alan sosyoekonomik faktörler arasında yer alan kişi başına düşen gayrisafi milli hasıla, işsizlik, eğitim, nüfus yoğunluğu ve net göçlerin ekonomik suç oranları üzerinde istatistiksel olarak anlamlı etkilerinin olduğu görülmektedir.

Anahtar Kelimeler: *Ekonomik Suç, Panel Veri Analizi, Sosyoekonomik Faktörler*.

Jel Kodları: *C23, J19, K42.*

1. INTRODUCTION

Crime is behavior that is against the law and subject to criminal sanctions. The reason for criminal sanctions is the effort to protect the social order. The issue of crime and punishment is not narrow-scoped as to be fit within a legal framework. Discussions regarding crime and punishment have been shaped by economic, political, social, religious, and cultural factors throughout human history and the size of these discussions is gradually increasing and diversifying today. At the center of these discussions lies the following critical question: What are the factors that lead crimes to occur? When the answer to this question is found, it will be possible to generate a realistic road map for policies to be followed and effective measures to be taken in order to reduce and eliminate crimes, which are social diseases. There have been people since ancient times who have claimed that the only method of combating crime is punishment. Whereas, if the mechanisms of the occurrence of the crimes are analyzed correctly, new methods and measures can be applied in order to prevent them.

Many factors affect the emergence of crimes. There is comprehensive empirical literature, most of which consists of studies conducted in order to determine the effect of these elements based on the canonical model established by Becker (1968) (Messner, 1988; Buonanno, 2003). Belton M. Fleisher's study in 1963, in which he analyzed the impact of unemployment and income on juvenile delinquency, can be considered the pioneer on this subject. In the Becker (1968) model, which is accepted as a seminal study in the relevant field, it is claimed that the individual's criminal behavior, emerges as a result of a

rational choice. According to Becker, criminal behavior emerges as a result of comparison of the following factors by individuals: the earnings to be obtained by committing a crime, the gain to be obtained through legal means without committing a crime, the possibility of being caught, and the monetary consequences of being punished. Consequently, if individuals who evaluate all of these elements find committing a crime "profitable" (or beneficial), they do so. As the probability of being caught and the penalty when caught increase, the tendency of individuals to commit crime decreases, and individuals "retract" from committing crimes. Ehrlich (1973), who developed Becker's model by adding the time dimension, asserted that individuals make decisions by comparing the benefits they get as a result of dividing their time between legal and illegal activities. Accordingly, individuals would turn to crime when the opportunity of potential income they would gain from illegal activities is relatively higher than the opportunity of potential income they would gain from legal activities. This model is known as the Becker-Ehrlich Model in the literature. After this model was established, empirical studies conducted on countries in order to test the model have rapidly increased. In these studies, with the help of panel data, cross-sectional data, and aggregated data, the relationships between the supply of crime and different socioeconomic and demographic variables were examined.

The study area of factors affecting crimes includes many scientific disciplines. Among them, economics, law, sociology, demography, criminology, psychology, and geography come to the fore. Thus, the number of factors that are thought to have an effect on the tendency of individuals to crime is rather high. Among them, there are many elements that can be further increased in numbers such as age, gender, education level, cultural characteristics, the justice system, religious factors, physical and psychological disorders, family structure and genetic factors, social environment, income, unemployment, poverty, inequality, social exclusion, population density, and institutional structure. There are also studies that show that even the physical environment can be effective on crimes. For example, studies on the relationship between different weather conditions (such as rain, wind, high temperatures) and crime (e.g. Cohn, 1990) are interesting in terms of showing how complex this issue can be.

In this study, economic crimes were determined as the focus, not general crimes, and the degree of relationship between economic crimes and various socioeconomic factors was investigated. The history of economic crimes, which is frequently brought to the agenda with the news that reaches the public through various communication channels in daily life, is very old and according to many authors, the history of economic crimes began with the history of the economy. Many of the religiously prohibited acts that take place in the scriptures are also related to economic crimes. While William Pettigrew pointed out that economic crime scandals such as embezzlement and corruption by major colonial corporations such as the East India Company, Royal African Company, and the Levant Company caused significant trauma to the public in the 17th and 18th centuries, it is known that these events initiated significant changes in public administration (Berghoff and Spiekermann, 2018). While

Edwin H. Sutherland (1940 and 1983), a very important criminologist in his field, put forward that economic crimes are much more than the total of other crimes in the overall crime total, he mentioned the reasons and negativities of society's more tolerant approach to economic crimes compared to other crimes. Sutherland's studies are also important in terms of showing that economic crimes can be committed not only by the lower classes and the poor in terms of income but also by individuals with high status in the upper-income levels of the society.

The importance of this study, which aims to determine the factors that affect the tendencies towards the economic crime of people living in regions of Turkey with different socioeconomic development levels and is thought to contribute to the literature in this direction is that it reveals the socioeconomic factors affecting economic crime by quantitative research method.

The study was carried out on the economic crime and the factors assumed to be related to it between the years 2008 and 2019 in a total of 26 sub-regions with different socioeconomic development levels in Turkey. The data have been provided by the Turkish Statistics Institute (TURKSTAT). First, crimes among general crimes included in the scope of economic crime were separated, then the relationship between economic crimes and gross national production per capita, unemployment, education, population density, and net migration was analyzed using the dynamic panel data method.

2. THEORETICAL FRAMEWORK AND EMPIRICAL LITERATURE

2.1. The Concept of Crime and a General Evaluation

In a general definition, crime is the general name given to acts that violate the law and can be punished by an authority with official sanctions. Since ancient civilizations, various mechanisms have been tried to prevent crime in order to ensure the peace and welfare of societies. While trying to prevent crime, the most important step in this matter is to find out what the motivation for committing a crime is and to try to prevent it. In this context, there are many studies aimed to understand the nature of the crime. According to Emile Durkheim, who is accepted as the founder of sociology in the modern sense, crime is all kinds of life-threatening attacks directed towards the values of social life and is inevitable. In this context, it is impossible to dream of a society where no crime is committed (Durkheim, 1938).

Studies to understand the definition, nature, and types of crime are within the scope of criminology. Criminology is the science that includes the definition of the criminal act, its types, and its studies in other fields. The beginning of criminology, which means crime science, is based on two major works. The first of them is Cesare Beccaria's "On Crimes and Punishments" dated 1764, and the second one is Caesar Lombroso's "Criminal Man", dated 1876.

Before 1968, while criminals were viewed as deviant individuals with atypical motivations, crime theory is now largely based on empirical studies by sociologists, psychologists, criminologists, political scientists, and law professors with developments in the field (Enthorf et al., 2000: 75). While early

studies to explain the determinants of crime attribute the crime to personality traits, other studies argue that there is no common pattern that can be used to distinguish the people who committed the crime from each other and that the criminal act is the result of a reaction to the events and situations happening around the person. According to this view, which is also called the rational choice approach, the relationship of individuals with a crime is explained by the relationship between profit and loss obtained by committing a criminal act.

2.2. Economic Crime and Forms of Economic Crimes

Economic crime represents illegal actions committed by an individual or a group of individuals in order to gain a financial or professional advantage. In such crimes, the main reason for the criminal is economic gain. Cybercrimes, tax evasion, robbery, selling of controlled substances, and abuses of economic aid are all examples of economic crimes (US Legal 2020). These crimes, which are also called economic and financial crimes in the literature, consisting of misuse of assets, bribery and corruption, accounting and tax fraud, cybercrime, and supply fraud, and it creates a permanent threat in the context of business and business process (PricewaterhouseCoopers, 2018: 4). By "economic crime" is meant a crime committed to gain profit in an otherwise legitimate business. Crime can harm private citizens, the business world, and/or the public sector. Thus, the definition includes various forms of fraud and embezzlement in illegal companies as well as tax evasion (Sjögren and Skogh, 2004: 1-2).

Another aspect of economic crime that differentiates it from others is that it is committed in other types as the level of education and institutionalization increases. In his work titled “White Collar Criminality” published in 1940, Sutherland claimed that the crime could be committed not only by people with low income or who do not have a job but also by individuals with corporate identity and senior titles. This type of crime, called white-collar crimes in the literature, is included in it. The term "white-collar crime", which was first introduced to the literature by Sutherland (1940), is the crimes committed by individuals who have a status in society and belong to respectable professions by abusing their trust in them. The introduction of this concept into the literature by Sutherland broke the misperception that until then, economic crimes could only be committed by people with low-income levels. According to Sutherland, economic crimes are also committed by people with high income and status, though the motivation of these status holders while committing this crime is different from the other group (Sutherland, 1940: 12). Among these crimes, there are crimes such as gaining unfair earnings by abusing the profession, taking bribes, and forging documents. There is no consensus in the literature between the term white-collar crime and professional crime. In some sources, it is seen that the term professional crime is used instead of white-collar crime. In this context, considering that professional crimes are actually committed by individuals who have a corporate identity, it is reasonable to consider them as white-collar crimes (Güner, 2019: 1415). Classification is made in Table 1 regarding the fields in which economic and financial crimes are committed.

Table 1. Economic Crimes and Their Classification

Fields	Finance and Banking	Commerce	Companies	Economic and Social Field	Informatics
Content of Crime	Illegal lending, card fraud, embezzlement, and illegal fund transfer, some fake check or promissory note transactions, counterfeit money printing, money laundering	Trade and smuggling of cigarettes, alcohol, coffee, electronic devices, and primary processed products such as oil, wood, metal, etc.; Import-export operations of shadow companies, seizing the markets and applying unfair prices.	Including false data in documents submitted to the public or affiliates, crimes related to the illegal capital problem; bankruptcy crimes, including fraudulent bankruptcy, transfer or cover-up of parts of assets, etc.	Drug trafficking, gambling; encouragement of prostitution and prosecution, illegal sale of works of art, use of non-profit organizations (foundations) to give a legal appearance to money from dirty work (money laundering), extortion, and theft	Hacker attacks on electronic transactions

Source: Achim and Borlea, 2020:6

It is seen in Table 1 that economic crimes can be committed in the field of finance and banking, commercial fields, companies, economic and social fields, and informatics. When this wide spectrum of economic crimes is examined, it is seen that crimes that appear to be crimes against property in a narrow sense are essentially intertwined with financial crimes and white-collar crimes. However, regardless of whatever angle is taken into account, financial gain is obtained as a result of economic crimes and this is the main reason behind the economic crimes committed. Another point related to economic crimes is that they have a chain effect on the society where they are committed. Economic crimes do not only cause specific and concrete damages but also affect the economic ethics and business practices of the country (Dönmezer, 1985: 20).

Economic crime is a concept that was not spoken out loud at the beginning of the twentieth century and was timidly mentioned by those who conducted studies on the subject. By the middle of the same century, at the end of the twentieth century, and especially at the beginning of the millennium (the twenty-first century), it became a "strengthened" fact with many examples. In this context, the pioneering studies in the literature which analyze the crime phenomenon and criminal behavior within the scope of economic theory and model are the studies of Bonger (1905), Fleisher (1963,1966), Becker (1968), and Ehrlich (1973).

Economic crime, which does not have a history as old as crimes associated with violence, was first put forward by Bonger. Bonger (1905) was among the first to distinguish between street crime and economic crime. While making this distinction, Bonger stated that especially merchants and tradesmen act in order to increase their assets and maximize their benefits.

Fleisher was one of the first economists to look at crime in economic terms. In fact, Fleisher's study is an experimental study aimed solely to identify the economic determinant of criminal behavior of an individual. In both of his articles published in 1963 and 1968, Fleisher brought an economic perspective to the relationship between crime and economic and social variables. In 1963, Fleisher emphasized the importance of understanding the relationship between crime and the labor market in his article. Also, Fleisher (1966) studied the relationship between juvenile delinquency and income and unemployment through regression analysis using intercity and urban data for the United States in 1960 (Ehrlich, 1973; 522). In this context, Fleisher is a pioneering researcher in terms of revealing the effects of macroeconomic indicators on criminal activity.

The pioneering study in the creation of economic models developed in relation to crime within the framework of the rational choice model is the work named "Crime and Punishment: An Economic Approach" by Becker in 1968. In this study, Becker examined the decision-making mechanism of the crime through the cost-benefit axis. According to Becker, people decide to commit a crime if the income they earn as a result of an illegal action, in short, the benefit is higher than the penalty they will receive as a result of their arrest, in short, compared to the cost. Becker emphasized that crime is an economically important activity or industry and is neglected by economists. By establishing the first crime selection model, he explained that in the model, individuals become criminals according to the benefit obtained from the crime, taking into account the probability of arrest and conviction and the seriousness of the punishment in cases of being caught (Buonanno, 2003: 3-5). When the subject is investigated in more detail, it is seen that Becker shows the expected benefit as a result of the crime committed in his study as follows (Becker, 1968: 177).

$$EU_j = p_j U_j(Y_j - f_j) + (1 - p_j)U_j(Y_j) \quad (1)$$

Where; EU_j is the expected benefit, p_j is the subjective probability of the individual being caught and convicted, Y_j is the individual's monetary income and psychic income (spiritual satisfaction), U_j is the benefit function of the person, and f_j is the monetary equivalent of the punishment. In that case, it can be said that if the benefit to be obtained through legal means is more than the benefit obtained by illegal means, the person will not engage in illegal activities. However, if the benefit of legal works is lower than the benefit of illegal activities, the person may engage in illegal activities. Considered in this context, it can be said that economic crimes will be committed by individuals only when the benefits override the costs.

Another pioneering work in the literature is the work named "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation" by Ehrlich (1973). In this study, the theory of participation in illegal activities was developed and tested in states in the United States of America. The results showed that crime rates are affected by sanctions, the presence of law enforcement officers has a deterrent effect on all crimes, and there is a strong positive correlation between income inequality and

crimes against property. Besides, the empirical results obtained have shown that the enforcement of laws is effective in reducing crime and social losses as the result (Ehrlich, 1973).

3. LITERATURE REVIEW

There are theoretical and empirical studies with different approaches related to what the economic and social determinants of crime and economic crime are in the literature. In this context, the factors assumed to be effective on crime and economic crime rates are also varying: income, demographic factors, divorce, immigration, age, education level, unemployment rate, inflation, income inequality, poverty, etc.

Many empirical studies in the literature reveal that there is a positive relationship between inequality and unemployment and crime. Using their models, Burdett, Lagos, and Wright studied this hypothesis and specifically examined the interactions between unemployment, the degree of income inequality, and crime rate, all of which are internally determined in the model. These studies also stress that labor market policies that can reduce unemployment and inequality will be effective policies that can be used to deter crime (Buonanno, 2003: 15).

Prominent studies conducted to detect the determinants of crime and economic crime as follows;

Ehrlich (1973) used data from 1940, 1950, and 1960 in the states of the United States to investigate the effect of sanctions on crime within the scope of crime prevention law enforcement. 2SLS and SUR were used as methods. Ehrlich found as the result of the study that crime rates are affected by sanctions, the presence of law enforcement officers has a deterrent effect on all crimes, and there is a strong positive correlation between income inequality and crimes against property.

Tsushima (1996), in his study, found that there is a positive relationship between poverty, income inequality, wages, unemployment, and crime rates systematically in Japan using the multiple regression analysis methods. Emphasizing that the economic structure, which is the basis of all social structures, has a significant effect on crime in the context of factors affecting crime, income level, and poverty, in this context, economic inequality and opportunities are determinants in the commission of crimes.

In his study, Lochner (1999) developed a simple model that includes individual decisions about crime and education, emphasizing that crime is primarily a problem among uneducated young males, and individuals with low skill levels commit crimes because of the return they can get from work or school is low. He emphasized in his study that both high school graduation and skills directly reduce crime tendencies and policies that increase the skills and abilities of children and adolescents will also be effective in decreasing crime rates.

Entorf and Spengler (2000) showed in their study that urbanization has a significant effect on crime rates for Germany. In addition, a positive relationship was found between income increases and crime rates, but no significant relationship was found between unemployment and crime.

Cerro and Meloni (2000), in their study on the period of 1990-1999 for Argentina, stated that the increase in the probability of being caught and punished reduced the crime. Besides, unemployment, an increase in income inequality, and an increase in per capita income increase crime rates. According to the authors, these results can be interpreted as richer regions encouraging higher crime rates.

Kelly (2000) emphasized that property crime is well explained by the economic crime theory and violent crime is better explained by the theories of tension and social disorder, studied the relationship between income inequality and crime rates, especially violent crimes, for the United States. In the study, emphasizing that there is a significant relationship between all violent crimes and income inequality, it is another result emphasized in the study that most of the crimes are committed by the most disadvantaged members of the society and these people are faced with greater pressure and incentives to commit crimes in areas where inequality is high.

Lochner et al. (2001) studied the effect of education level on crimes in states of United States. While studying this relationship, they asked the question of whether high school graduation affects the rate of involvement in criminal activity. Using the OLS and VI estimators in their study, Lochner and Moretti found that high school graduation reduced the probability of going to prison by 0.76% for whites and 3.4% for blacks.

Cömertler et al. (2007) tried to identify the economic variables that determine the crime rate. The data of 81 provinces for the year 2000 were analyzed with cross-sectional analysis and it was determined that the variables related to socioeconomic structures are important in determining the crime rate. In this context, it has been observed that the unemployment rate, immigration rate per capita, income per capita, development index, urbanization rate, demographic factors, and the size of the provinces positively affect the crime rate. It has also been observed that the number of security personnel per person is not effective in determining the crime rate.

Durusoy et al. (2008) tried to reveal to what extent the crimes committed in Turkey can be explained by certain socioeconomic variables. In the study, which was carried out using the data obtained for 81 provinces, the relationship of variables such as poverty, inequality in income distribution, unemployment, migration to the provinces, and education level with crimes was investigated using the linear regression method. According to the study, while unemployment is only effective in increasing crimes of damaging property, it was determined that the total number of crimes against property, theft, and purse-snatching, pickpocketing, and fraud were significantly higher in provinces with a higher population subject to compulsory social insurance and relatively higher welfare level than other provinces.

Nikolaos and Alexandros (2009) found that there is a statistically significant relationship between wage and unemployment rate and crime in both the long and short term. While unemployment decreases crime rates, a negative relationship between wage and crime rate in the short run but a positive in the

long run has been detected. Although the migration variable has a positive effect on the analysis, it is not significant.

In the studies of Hooghe et al. (2010), the effects of income inequality, unemployment, and poverty on crime rates were analyzed statistically for Belgium in the period 2001-2006. They concluded that crime rates are high in urban areas, there is a significant relationship between income and crime rates, the relationship between unemployment and crime rates is also significant, and there is a stronger relationship than the relationship between income and crime. The relationship between income inequality and crime rates has also reached significant results, and they have reached the conclusion that there are significant relationships between crimes against property, unemployment, income, and income inequality, especially crimes against property.

Aaltonen et al. (2011) investigated the relationship between violent crimes, property crimes, and all crimes and the socio-economic situation with a nationally representative sample of Finnish citizens aged 19 to 30 years. Long-term unemployment and especially having only a basic education are the findings of the study as the strongest determinants of crime. Also, emphasizing that the effect of low income on crime is low and primarily due to the fact that they have been involved in crime before, they explained that they explained that there is a weaker relationship than a significant relationship between socioeconomic characteristics such as education, unemployment, and crime.

Buonanno et al. (2014) investigated the response of crime rates to economic conditions in their study. They conducted a study covering about 20 countries in the period of 1970-2010. The effects of increases in unemployment and changes in economic conditions on crime rates have been investigated. They concluded in their study that crime rates positively affected changes in unemployment rates.

Bhorat et al. (2017) empirically examined the effects of socioeconomic factors such as poverty, unemployment, income, and income inequality on crime rates due to the high crime rates in South Africa. The results of the study are that although there is a positive relationship between violent crime and income, there is no relationship between inequality and violent crime or between unemployment and any type of crime. On the other hand, another result emphasized in the study is that no socioeconomic factor is significantly associated with robbery and that such crimes can be committed due to interpersonal differences and psychological reasons. In the study, it is emphasized that there is a relationship between property crime and socioeconomic variables and that the relationship between property crime and income and income inequality is complex. It is concluded that crime rates change with income and inequality increases, crime rates increase with income, and an increase in income inequality indicates a relative increase in return to crime in the region, so crime rates will increase with inequality.

Hunca (2019) tested the hypothesis that as the level of education increases, the tendency towards crime will decrease. In the model, income, unemployment, immigration, and household size are also

added to the educational status variable. Financial crimes, theft, and violent crimes were used as dependent variables in the model created. The result is that as the level of education increases, the number of crimes does not decrease. However, as migration and household size increased, crime increased; again, as unemployment increased, crime increased

Wassie et al. (2020) investigated the socioeconomic determinants of property crimes for convicted criminals in Ethiopia. It has been emphasized in the study that age, educational status, economic status, and criminal experience prior to the current crime of the criminal are the factors affecting the individual's committing property crime. Single and illiterate unemployed youth committed the crime of theft due to ignorance and unemployment. On the other hand, illiteracy, being unemployed, and being raised by single parents are the factors that are effective in committing the crime of theft for the first time. On the other hand, another important result obtained in the study is that there is a positive relationship between working and literacy and theft and robbery.

As can be seen, there are many studies on the determinants of crime and economic crime. While the results of these studies differ according to the samples, it is seen that the crime has determinants such as educational status, unemployment, income distribution, income, urbanization, sanctions, poverty, and whether there is a previous criminal history.

4. DATA SET

It is aimed in this study to determine the relationship between economic crimes and socioeconomic factors. In this context, panel data belonging to 26 sub-regions in the Statistical Regional Units Classification-II (İİBS-II) of the country for the period 2008-2019 are analyzed with dynamic panel data methods. The 26 sub-regions mentioned here are as stated in Table 3 together with their region codes.

Table 2. Turkey İİBS-II Classification

Region Code	Provinces in the Region	Region Code	Provinces in the Region
TRA1	Erzurum, Erzincan, Bayburt	**TR32**	Aydin, Denizli, Muğla
TRA2	Ağrı, Kars, Iğdır, Ardahan	**TR33**	Manisa, Afyon, Kütahya, Uşak
TRB1	Malatya, Elazığ, Bingöl, Tunceli	**TR41**	Bursa, Eskişehir, Bilecik
TRB2	Van, Muş, Bitlis, Hakkâri	**TR42**	Kocaeli, Sakarya, Düzce, Bolu, Yalova
TRC1	Gaziantep, Adıyaman, Kilis	**TR51**	Ankara
TRC2	Şanlıurfa, Diyarbakır	**TR52**	Konya, Karaman
TRC3	Mardin, Batman, Şırnak, Siirt	**TR61**	Antalya, Isparta, Burdur
TR10	İstanbul	**TR62**	Adana, Mersin
TR21	Tekirdağ, Edirne, Kırklareli	**TR63**	Hatay, Kahramanmaraş, Osmaniye
TR22	Balıkesir, Çanakkale	**TR71**	Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir
TR31	İzmir	**TR72**	Kayseri, Sivas, Yozgat

Source: Turkish Statistical Institute

Relevant analyzes are carried out in the light of data from 26 regions in Table 2. The variables used in the analysis and their explanations are included in Table 3.

Table 3. Variables and Their Descriptions

Variable	Description
Economic Crime	Percentage of the number of convicts imprisoned for economic crimes in the population
GDP per Capita	Per capita income (USD)
Unemployment	Unemployment rate (+15 years)
Education	Rate of secondary education graduates
Population Density	Number of people per thousand m^2
Net Migration	Net migration rate according to the address-based population registration system

Source: Turkish Statistical Institute

Turkish Statistics Institute classifies the number of convicts entering the prison according to the type of crime. The economic crime variable, which is in the table and constitutes the dependent variable of our analysis, represents 10 different crimes selected among these crimes and expressed as economic crimes in the literature. The types of crime that constitute the economic crime variable are as given in Table 4.

Table 4. Economic Crimes

1	Theft	**6**	Pillage (Extortion)
2	Bribery	**7**	Embezzlement
3	Fraud	**8**	Violation of check laws
4	Smuggling	**9**	Violation of the Enforcement and Bankruptcy Law
5	Forgery	**10**	Production and trade of drugs or stimulants

5. METHOD

In the study, the socioeconomic determinants of economic crimes are analyzed using dynamic panel data methods. Panel data can be analyzed with static panel data or dynamic panel data methods. Unlike static panel data models, dynamic panel data models also include lagged values of variables. In this way, the effect of the lagged values of the dependent variable on the current period is also included in the model. Dynamic panel data methods generally represent econometric models in which the lagged values of the dependent variable are included in the model as independent variables. Dynamic panel data models are expressed as follows with the presence of a lagged dependent variable (Baltagi, 2005: 135).

$$y_{it} = \delta\, y_{it-1} + x'_{it}\,\beta + u_{it} \quad i = 1, \ldots\ldots, N;\ t = 1, \ldots\ldots, T \tag{2}$$

It is possible to come across many dynamic panel data methods in the literature. However, the Generalized Moments Method (GMM) proposed by Arellano-Bond (1991) was used in the study. The main factor in preferring this method is the time and unit structures of the panel data used in the analysis. The GMM estimator, which can be used in cases where the time period is short and the unit size is larger than the time dimension, can be estimated in one and two stages. The two-step GMM estimator generally has a smaller asymptotic variance. And also statistical tests based on the two-step estimator

asymptotically more powerful than those based on the one-step estimator (Hwang and Sun, 2018: 381-382). For this reason, the two-step estimator is often preferred over the one-step estimator. In this study, Arellano-Bond's Two-Step Generalized Moments Estimator was used in the analyzes applied to determine the socioeconomic determinants of economic crimes. The econometric model estimated in the study can be expressed as follows.

$$\text{Economic Crime}_{it} = \beta_0 + \beta_1 \text{ Economic Crime}_{it-1} + \beta_2 \text{ GDP per Capita}_{it} + \beta_3 \text{ Unemployment}_{it} + \beta_4 \text{ Education}_{it} + \beta_5 \text{ Population Density}_{it} + \beta_6 \text{ Net Migration}_{it} + \varepsilon_{it} \quad (3)$$

6. FINDINGS

Arellano-Bond Two-Step GMM estimation results are summarized in Table 5.

Table 5. Dynamic Panel Data Analysis Estimation Results

Arellano/Bond Two-Step GMM Estimation Results	
β_0	-0.1418769* (0.000)
β_1	0.6051751* (0.0000)
β_2	0.0000021* (0.0000)
β_3	-0.0005887** (0.0270)
β_4	0.0065726* (0.0000)
β_5	0.0001614** (0.0160)
β_6	0.0000562** (0.0210)
Wald Test	8301.58 (0.0000)
Sargan Test	25.29862 (0.9997)
AR(1)	-3.27300 (0.0011)
AR(2)	0.99914 (0.3177)

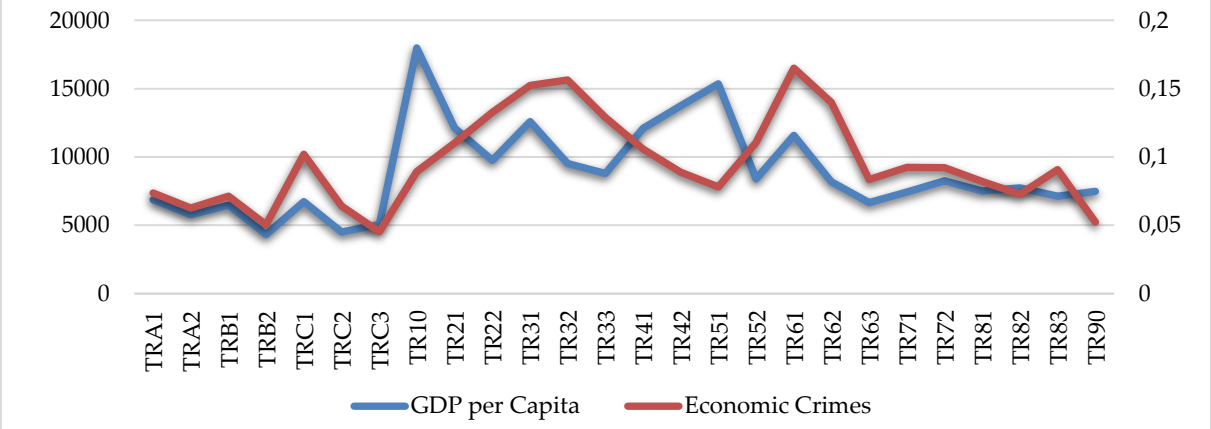
Note: Values in parentheses represent probability values.
* It is statistically significant at a 1% significance level.
** It is statistically significant at a 5% significance level.

When Table 5 is examined, it is seen that the socioeconomic factors included in the analysis have statistically significant effects on the economic crime rates. When the coefficients are examined individually, it is observed that the direction of the relations between economic crime and socioeconomic factors differs. At the same time, while there is no second-order autocorrelation problem in the model, the Wald test indicates that the model is statistically significant, and the Sargan test results indicate that the instrument variables are valid.

According to the two-step GMM results, the estimated coefficient (β_2) for the income per capita variable has a positive indicator. This result implies that there is a direct relationship between the level

of income per capita and economic crime rates, in other words, as the income per capita level increases, the economic crime rates also increase. The relationship between income and crime is discussed in two dimensions in the literature. When the literature is examined, there are studies suggesting that the low-income level will increase crime rates, as well as studies suggesting that the high-income level will have positive effects on crime rates. As it will be remembered, Sutherland (1940) states that people who are called white-collar and generally have high income also commit crimes, and these crimes are classified as economic crimes. Again, according to Meera and Jayakumar (1995), high income per capita can lead to the erosion of social values and transforming into a more materialistic society and an increase in crime rates may occur in such a society. This point of view makes the analysis results more meaningful when evaluated specifically for economic crimes. So much so that the economic crimes subject to our study aim to achieve a certain economic gain by definition. Therefore, increased income can trigger a higher incentive for economic gain. Graphic 1, which shows the income per capita levels and economic crime rates of the regions in 2019, supports this positive relationship between the variables.

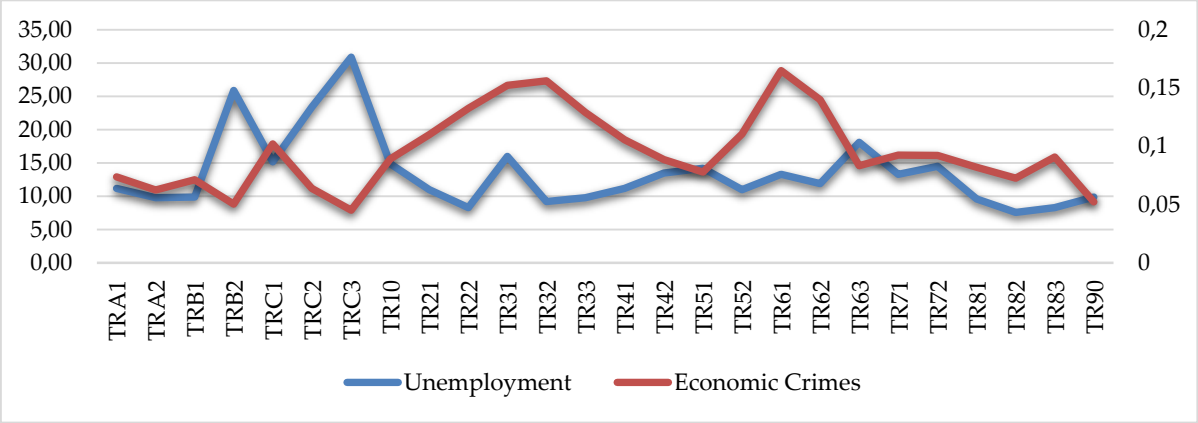
Graphic 1. GDP per Capita Level and Economic Crimes (% of Total Population) (2019)



As it can be understood from Graphic 1, in most of the regions with relatively higher GDP per capita among the 26 regions, economic crime rates are also relatively high. This situation supports the positive relationship between GDP per capita and economic crime rates obtained in the analysis results.

On the other hand, in the analysis results, a reverse relationship is found between the unemployment rates and the share of economic crimes in the total population. In other words, it is observed that as the unemployment rate increases, economic crimes decrease.

Graphic 2. Unemployment Rate and Economic Crimes (% of Total Population) (2019)



Graphic 2, prepared with the data of 2019, shows the unemployment rates of 26 regions together with the economic crime rates in these regions. The reverse movement between unemployment rates and economic crime rates can be easily observed from the graph. This situation supports the reverse statistical relationship reached in the analysis results.

In many studies in the literature, positive relationships between unemployment rates and crime rates are encountered, and this situation is generally explained by economic and sociological reasons. However, when the related relationship is examined specifically for the crimes that are the subject of our study, the reverse relationship found can be explained. Such that, crimes as bribery, fraud, forgery, embezzlement, violation of check laws, and violation of the Enforcement and Bankruptcy Law are crimes directly related to the labor market. Such crimes can only be committed if the person who committed the crime is in the labor market. This situation is seen as the most important factor explaining the negative relationship between the unemployment rate and economic crimes.

Another parameter estimated by two-step GMM is the estimated β_4 parameter for the education variable. According to the estimation results given in Table 6, the relevant parameter has a positive sign and is statistically significant. It shows that there is a significant positive relationship between the ratio of secondary school graduates representing the education variable and the economic crime rates. Secondary education is generally the first stage after compulsory education in the world and is included in the analysis as an independent variable because it represents a wide audience. The fact that secondary education graduates constitute an important part of employment explains this positive relationship with economic crime. On the other hand, this result implies that secondary education is not sufficient in reducing economic crimes. The reason for it is that there is no strong evidence in the literature that education will reduce economic crimes.

On the other hand, according to the estimation results, it is seen that the parameters estimated for population density and net migration rates are also positive and statistically significant. To put it more clearly, the increase in population density and the increase in net migration rate have increasing effects on economic crimes. Here, the high rate of economic crime stands out in regions such as TR31 (İzmir)

and TR62 (Adana, Mersin) where population density is relatively higher than other regions. In the TR10 (Istanbul) and TR51 (Ankara) regions where the population is densest, it can be said that the economic crime rates are close to the Turkey average.

Similarly, while, in regions such as TR21 (Tekirdağ, Edirne, Kırklareli), TR31 (İzmir), TR32 (Aydın, Denizli, Muğla) and TR61 (Antalya, Isparta, Burdur) with high rates of immigration allowance, economic crimes are observed to be higher than other regions, TRB2 (Van, Muş, Bitlis, Hakkari), TRC3 (Mardin, Batman, Şırnak, Siirt) and TR90 (Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane) regions, which have high immigration rates, are the regions with the lowest economic crime rates. It again supports the positive statistical relationship reached between net migration rates and economic crime rates.

7. CONCLUSION

Determining the socioeconomic factors that have an impact on the criminal activities of individuals is vital for building a peaceful society. Policymakers need to know what these factors are when determining the measures to be taken to reduce crime rates. Thus, it will be possible to reduce the sensitivity of criminal activity to socioeconomic factors. In studies in this direction, the general characteristics of economic crime, or in other words, white-collar crimes, should be taken into consideration. This is because white-collar crimes differ in that their motivation is financial gain, includes the middle and upper-income groups widely, does not have an element of violence, and is based on a breach of trust (Berghoff and Spiekermann, 2018).

Determining the factors affecting economic crime for Turkey is of particular importance. Due to its geographical location, Turkey is at the center of geoeconomic and geopolitical formations and plays a central role, especially in terms of energy corridors and trade channels. On the other hand, it is seen that Turkey has become the most important transit country between Asia, Europe, and Africa in terms of international migration traffic. While Turkey's central location in these areas gives it an advantage, it also creates significant disadvantages in terms of illegal immigration, drug trafficking, and crimes related to money laundering and makes it necessary to establish effective socioeconomic policies regarding the balance between economic crimes and related penalties.

This study, it is aimed to determine empirically the relationship of economic crimes with socioeconomic factors in Turkey. With the analysis results, it is seen that the socioeconomic factors included in the model, the gross national product per capita, unemployment, education, population density, and net migration have statistically significant effects on the economic crime rates.

The results of the analysis conducted in this study on the relationship between income level and crime, which cannot be determined in the literature, support the positive and correct relationship between the per capita income level and economic crime rates. In other words, as the level of per capita income

increases, economic crime rates increase. It can be explained by the negative effects of new lifestyles emerging at raising income levels on moral behavior patterns on the one hand, and by the increase in the likelihood of some types of economic crime at high-income levels, on the other hand. When income levels of individuals rise, they may refrain from committing crimes due to the fear of losing that income. However, when it comes to economic crimes, it is also necessary to consider that this penalty-earnings accounting may differ. Also, the income distribution dimension should not be neglected in the relationship between income level and crime. There is serious evidence that the injustice in the income distribution increases the crime rate (Blau and Blau, 1982; Hsieh et al., 1993; Glaeser et al., 1996 and Kovandzic et al., 1998).

Consistent with the literature, there is a positive and statistically significant relationship between economic crimes and net migration rates and population density. Reconsideration of migration policies and taking multidimensional measures by policy-makers may reduce economic crime rates. The negative impact of population density on economic crimes can be eliminated by rational measures to be taken in urbanization policies on the one hand, and new social policy bundles to be implemented on the other.

In the analysis, a negative relationship was found between unemployment rates and economic crime rates, contrary to many studies in the literature (Raphael and Winter-Ebner, 2001). It can be explained by the fact that a significant portion of economic crimes stems from the need for active business life to occur. The reason for it is that the emergence of crimes such as bribery, fraud, forgery, embezzlement, violation of check laws, and violation of the Enforcement and Bankruptcy Law necessitates active participation in the labor market.

The relationship between the education variable and the rates of economic crime based on the study was also found to be significant and positive. Although some of the empirical studies have determined a negative relationship between crimes such as murder, injury, assault, threat, vandalism, and education level (Groot et al., 2007; Bharadvaj, 2014), different results can be encountered. It can be explained by the high share of secondary education graduates, which we have determined as education variables, in total employment and business life. In fact, it is necessary to have a certain level of knowledge in order to commit most of the economic crime types that are the subject of our analysis. Considering all these situations, the result obtained is significant, especially for economic crimes. On the other hand, another result obtained is that secondary education cannot prevent individuals from committing economic crimes.

Another result we have obtained in this study is that more studies are needed on the expectation that the education level will mechanically reduce the economic crime rates. The relationship of economic crimes with the family environment in which individuals grow up should be brought to light. The economic and psychological climate of the family life in which individuals spent a significant part

of their childhood and youth, their social interactions with the environmental conditions they were born and raised and their social relationships lead them to acquire habits that will affect their entire lives. The acceptance that the level of education will prevent individuals from committing crimes by developing a moral stance should also be approached with caution and in-depth pedagogical studies should be conducted on this subject. Future studies should focus more particularly on the relationship between education and economic crime.

Our analysis has left us with many new questions. First of all, in the large-scale literature emerging in this field, we see that all types of crime are combined under a single roof as the dependent variable while the relationship between crime and many socioeconomic and demographic variables is questioned. However, economic crimes are different from other types of crimes in terms of their structural features, and this situation differentiates the analysis results. Future studies should focus more particularly on the relationship between education and economic crime.

In the analyzes made, the special situations of the countries in their international relations should be evaluated separately. For example, empirical studies on the region after the unification of West Germany and East Germany try to include the invisible effects of this unification into the analysis (Entorf and Spengler, 2000).

Also, especially in quantitative analyzes on the subject, it should be taken into account that the cases do not follow a normal distribution in the crime universe, that a small number of offenders tend to commit disproportionate amounts of crime, or that small groups of victims are exposed to the actions of a large number of criminals (Justus et al., 2015: 296). On the other hand, it should not be forgotten that the sociocultural structure of the analyzed country and different regions within the same country is a very important exogenous variable. A type of behavior that is indisputably considered a crime in one country can be tolerated in another country or some crimes can be covered up due to the traditional reactions of the countries. In such cases, statistics do not carry accurate information. Also, the deterrence of punishments for crimes can also vary from country to country. The degree of deterrence of penalties for different types of crimes may also differ between countries. Considering that the quality of the law and justice system is not homogeneous across countries, the importance of conducting studies on this subject with multidimensional variables becomes clear.

REFERENCES

Aaltonen, M., Kivivuori, J. and Martikainen, P. (2011) ‘‘Social Determinants of Crime in a Welfare State: Do They Still Matter?’’, Acta Sociologia, 54(2), 161-181.

Achim M. V. and Borlea S. N. (2020) ‘‘Economic and Financial Crime, Studies of Organized Crime’’, The Springer International Publishing.

Arellano, M. and Bond, S. (1991) ‘‘Some Test of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations’’, Review of Economic Studies, 58, 277-297.

Baltagi, B. H. (2005) ‘‘Econometric Analysis of Panel Data’’, (3rd Edition), England: John Wiley & Sons Inc.

Becker, G. (1968) ‘‘Crime and Punishment: an Economic Approach’’, Journal of Political Economy, 76: 169-217.

Berghoff, H. and Spiekermann U. (2018) ‘‘Shady Business: On the History of White-Collar Crime’’, Business History, 60(3): 289-304.

Bharadvaj, A. (2014) ‘‘Is Poverty the Mother of Crime? Empirical Evidence of the Impact of Socioeconomic Factors on Crime in India’’, Atlantic Review of Economics, 1.

Bhorat, H., Lilenstein, A., Monnakgotla, J., Thornton, A. and Van Der Zee, K. (2017) ‘‘The Socioeconomic Determinants of Crime in South Africa: an Empirical Assessment’’, Development Policy Research Unit Working Paper, DPRU, University of Cape Town.

Blau, J. R. and Blau, P. M. (1982) ‘‘The Cost of Inequality: Metropolitan Structure and Violent Crime’’, American Sociological Review, 47: 114-29.

Bonger, W. A. (1905) ‘‘Criminalite et Conditions Economiques’’, Amsterdam: G. P. Tierie.

Buonanno, P., Drago, F. and Galbiati, R. (2014) ‘‘Response of Crime to Unemployment: an International Comparison’’, Journal of Contemporary Criminal Justice, 30(1): 29-40.

Buonanno, P. (2003)‘‘The Socioeconomic Determinants of Crime’’, A Review of the Literature, Department Of Economics University Of Milan Working Paper Series, No. 63.

Cerro A. M. and Meloni O. (2000) ‘‘Determinants of the Crime Rate in Argentina during the 90's’’, Estudios de Economía, 27(2): 297-311.

Cohn, E. (1990) ‘‘Weather and Crime’’, The British Journal of Criminology, 30(1): 51-64, Retrieved March 22, 2021, from http://www.jstor.org/stable/23638231.

Cömertler, N. and Kar, M. (2007) ‘‘Socioeconomic Determinants of Crime Rates in Turkey: A Cross-Sectional Analysis’’, Ankara University Faculty of Political Sciences Journal, 62 (2): 37-57.

Dönmezler, S. (1985) ‘‘Economic Crimes’’, Erciyes University Faculty of Economics and Administrative Sciences Journal, 7:19-30.

Durkheim, E. (1938) ‘‘The Rules of Sociological Method’’ (8th ed.), Chicago: University of Chicago Press.

Ehrlich, I. (1973) ‘‘Participation in Illegitimate Activities; a Theoretical and Empirical Investigation’’, Journal of Political Economy, 81(3): 521-565.

Entorf, H. and Spengler, H. (2000) ‘‘Socioeconomic and Demographic Factors of Crime in Germany Evidence from Panel Data of the German States’’, International Review of Law and Economics, 20: 75–106.

Fleisher, B. M. (1963) ‘‘The Effect of Unemployment on Juvenile Delinquency’’, Journal of Political Economy, 71(6): 543-543.

Fleisher, B. M. (1966) ‘‘The Effect of Income on Delinquency’’, The American Economic Review, 56(1/2), pp. 118-137, Retrieved March 22, 2021, from http://www.jstor.org/stable/1821199.

Glaeser, E. L., Sacerdote, B. and Scheinkman, J.A. (1996) ‘‘Crime and Social Interaction’’, Quarterly Journal of Economics, 111(2): 507-48.

Groot, W. and van den Brink, H. M. (2007) ‘‘The Effects of Education on Crime’’, Applied Econometrics, 42(3): 279-289.

Güner, U. (2019) ‘‘Legal Regulations on Economic Crimes and Economic Criminal Law’’, Dokuz Eylül University Faculty of Law Journal, 21 (Special Issue), 1411-1442.

Hooghe, M., Vanhoutte, B., Hardyns, W. and Bircan, T, (2010) ‘‘Unemployment, Inequality, Poverty and Crime Spatial Distribution Patterns of Criminal Acts in Belgium 2001–06’’, British Journal of Criminology 51(1): 1-20.

Hsieh, C. C., and Pugh, M. D. (1993) ‘‘Poverty, Income Inequality, and Violent Crime: a Meta-Analysis of Recent Aggregate Data Studies’’, Criminal Justice Review, 18(2): 182-202.

Hwang, J. and Sun, Y. (2018) ‘‘Should We Go One Step Further? An Accurate Comparison of one-step and Two-Step Procedures in a Generalized Method of Moments Framework’’, Journal of Econometrics, 207: 381-405.

Justus, M., Kahn, T., and Kawamura, H. (2015) ‘‘Relationship between Income and Repeat Criminal Victimization in Brazil, EconomiA, 16: 295-309.

Karadeniz, S.D.K., Durusoy, S., Köse, S. and Karadeniz, O. (2008) ‘‘Could Major Socioeconomic Problems be the Determinant of the Crime? An inter-provinces analysis in Turkey’’, Electronic Journal of Social Sciences, 7(23): 172-203.

Kelly, M. (2000) ‘‘Inequality and Crime’’, Review of Economics and Statistics, 82(4): 530–539.

Kovandzic, T. V., Vieraitis, L.M. and Yeisley, M.R. (1998) ‘‘The Structural Covariates of Urban Homicide: Reassessing the Impact of Income Inequality and Poverty in The Post-Reagan Era’’, Criminology, 36: 569-99.

Lochner L. and Moretti, E. (2001) ‘‘The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports’’, National Bureau of Economic Research Working Paper Series, No: 8605.

Lochner, L. (1999) ‘‘Education, Work, and Crime: Theory and Evidence’’, Rochester Center for Economic Research Working Paper No. 465, October, University of Rochester.

Meera, A.K. and Jayakumar, M. D. (1995) ‘‘Determinants of Crime in a Developing Country: a Regression Model’’, Applied Economics, 27: 455-460.

Messner, S. F. (1988) ‘‘Research on Cultural and Socioeconomic Factors in Criminal Violence’’, Psychiatric Clinics of North America, 11(4): 511–525.

Nikolaos, D. and Alexandros, G. (2009) ‘‘The Effect of Socioeconomic Determinants on Crime Rates: Empirical Research in the Case of Greece with Cointegration Analysis’’, International Journal of Economic Sciences and Applied Research, 2(2): 51-64.

PricewaterhouseCoopers (2018) ‘‘Pulling Fraud Out of the Shadows Global Economic Crime and Fraud Survey 2018’’, Available at https://www.pwc.com/gx/en/forensics/global-economic-crime-and-fraud-survey-2018.pdf.

Raphael, S., and Winter-Ebmer, R. (2001) ‘‘Identifying the Effect of Unemployment on Crime’’, The Journal of Law & Economics, 44(1): 259-283.

Sjögren, H. and Skogh, G. (2004) ‘‘New Perspectives on Economic Crime, New Horizons in Law and Economics’’, Edward Elgar Publishing Limited. UK: Cheltenham.

Sutherland, E. H. (1940) ‘‘White-Collar Criminality’’, American Sociological Review, 5: 1-12.

Sutherland, E. H. (1983) ‘‘White-Collar Crime: The Uncut Version’’, New Haven, CT: Yale University Press.

Tsushima, M. (1996) ‘‘Economic Structure and Crime: The Case of Japan’’, Journal of Socio-Economics, 25(4): 497-515.

Tunca, H. (2019) ‘‘Socioeconomic Determinants of Crime: Panel Data Analysis’’, Journal of Human and Social Sciences Researches, 8(4): 2767-2784.

US Legal. (2020) ‘‘Economic Crime Law and Legal Definition’’, Available at https://definitions.uslegal.com/e/economic-crime/.

Wassie, N., Melese, B. and Eyasu, N. (2020) ‘‘Socioeconomic Determinants of Property Crime Offending in Ethiopia: Convicted Offenders in Focus’’, Journal of Financial Crime.

KATKI ORANI/ *CONTRIBUTION RATE AÇIKLAMA*	**AÇIKLAMA / *EXPLANATION***	**KATKIDA BULUNANLAR / *CONTRIBUTORS***
Fikir veya Kavram / *Idea or Notion*	Araştırma hipotezini veya fikrini oluşturmak / *Form the research hypothesis or idea*	Dr. Öğr. Üyesi Ümit YILDIZ Dr. Öğr. Üyesi Eylül KABAKÇI GÜNAY Prof. Dr. Güler GÜNSOY Prof. Dr. Bülent GÜNSOY
Tasarım / *Design*	Yöntemi, ölçeği ve deseni tasarlamak / *Designing method, scale and pattern*	Dr. Öğr. Üyesi Ümit YILDIZ Dr. Öğr. Üyesi Eylül KABAKÇI GÜNAY Prof. Dr. Güler GÜNSOY Prof. Dr. Bülent GÜNSOY
Veri Toplama ve İşleme / *Data Collecting and Processing*	Verileri toplamak, düzenlenmek ve raporlamak / *Collecting, organizing and reporting data*	Dr. Öğr. Üyesi Ümit YILDIZ Dr. Öğr. Üyesi Eylül KABAKÇI GÜNAY Prof. Dr. Güler GÜNSOY Prof. Dr. Bülent GÜNSOY
Tartışma ve Yorum / *Discussion and Interpretation*	Bulguların değerlendirilmesinde ve sonuçlandırılmasında sorumluluk almak / *Taking responsibility in evaluating and finalizing the findings*	Dr. Öğr. Üyesi Ümit YILDIZ Dr. Öğr. Üyesi Eylül KABAKÇI GÜNAY Prof. Dr. Güler GÜNSOY Prof. Dr. Bülent GÜNSOY
Literatür Taraması / *Literature Review*	Çalışma için gerekli literatürü taramak / *Review the literature required for the study*	Dr. Öğr. Üyesi Ümit YILDIZ Dr. Öğr. Üyesi Eylül KABAKÇI GÜNAY Prof. Dr. Güler GÜNSOY Prof. Dr. Bülent GÜNSOY

Hakem Değerlendirmesi: Dış bağımsız.

Çıkar Çatışması: Yazar çıkar çatışması bildirmemiştir.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadığını beyan etmiştir.

Teşekkür: -

Peer-review: Externally peer-reviewed.

Conflict of Interest: The authors have no conflict of interest to declare.

Grant Support: The authors declared that this study has received no financial support.

Acknowledgement: -