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Are traffic violators criminals? Searching for answers in the experiences of European countries

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ABSTRACT

The connection between crime and road safety is a relatively recent topic in academic research, although most studies have focused on the link between criminal behavior and traffic offenses, and only a few authors discuss the possible relationship with traffic accident fatalities. Evidence worldwide shows that people who commit other offenses characteristic of antisocial attitudes are more likely to have road traffic accidents and infringe traffic laws. We examine the records of the 28 current member states of the European Union over the 1999–2010 period. Our aim is to test the hypothesis that crime rates (and specifically, motor vehicle-related crimes) can be considered as predictors of fatal road traffic accidents. If they can be, this could be *prima facie* justification, at least, of the trend in several countries to consider traffic offenses as crimes in their penal codes and to toughen the punishment imposed on those who commit them. The effect of the severity of the legal system applied to traffic offenses is also analyzed. From a geographical point of view, our results reveal that road traffic fatality rates are higher in countries where the behavior of the inhabitants is more aggressive, while the rates are lower in countries with more severe penal systems.

1. Introduction

Road traffic accidents (RTAs) are a major cause of mortality and serious morbidity with high costs throughout the whole of the European Union (EU) (Castillo-Manzano et al., 2014a; Orsi et al., 2012). Among the issues that contribute to the occurrence of RTAs worldwide, most studies highlight behavioral factors as the main explanation; particularly those that reduce capabilities (drowsiness, fatigue, alcohol or drug consumption) or increase risk while driving (traffic offenses, driver stress, violence and hostile behavior in traffic, motor vehicle crimes) (Petridou and Moustaki (2000) analyze this classification in depth). Apart from this, it should also be taken into account that, as Papadimitriou and Yannis (2013) state for a sample of European countries, better road safety management is not necessarily associated with better road safety performance, as there is a policy context (cultural structure, road users' attitudes and behavior) that determines road safety outcomes (in terms of low numbers of traffic casualties and fatalities).

Following initial studies, such as Porterfield (1960), over the last two decades the literature has paid special attention to the connection between road traffic safety and criminal behavior. The roles of both traffic law enforcement (hereinafter, TLE) and legal systems have been highlighted as deterrence and punitive measures to improve compliance with traffic rules (see the comprehensive international overviews provided by Brace et al. (2009) and Zaal (1994), respectively). Much research has provided evidence from all round the world that people with antisocial attitudes who commit aggressive or other offenses due to their lack of assimilation of the social norms are more frequently involved in risky situations in general (see e.g., Fischer and Poland (1998), on how social exclusion may even serve as a control mechanism when traditional means of social control, such as punishments or deterrence, are ineffective or insufficient) and are specifically more prone to RTAs and traffic violations (Broughton, 2007; Săucan et al., 2012; Sümer, 2003; West et al., 1993).

In fact, the relationship between road safety and criminality has been addressed by applying different psychological, sociological and criminological research approaches (Brace et al., 2009; Junger et al., 1995a, for a broad analysis). These include, for example, the tendency to commit crime according to personality traits (according to the "Mild Social Deviance" theory based on

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involvement in accidents associated with hostile attitudes, aggression and antisocial forms of behavior, Meadows et al., 1998; West et al., 1993); diverse situational hypotheses that suggest that the way one drives is closely linked to other behavioral traits in one's personal and social life, because driving behavior is actually a part of a complex system determined by attitudinal and motivational factors that affect individuals in their relationship with society (the so-called "Self-control Theory" and "Social Control Theory" and the "Hierarchical Approach" applied to traffic research by Hatakka et al. (2002), Junger et al. (1995b), Junger and Tremblay (1999), among others). The issue has even been addressed from an economic perspective; authors such as Elvik (2006) and Veisten et al. (2013) discuss the role of traditional decision tools like Cost-Benefit Analyses in order to isolate and consider separately the social and individual consequences that derive from traffic law violations committed by offenders.

However, the connection between criminal or unsafe behavior and road safety seems to be a relatively under-researched topic, both nationally and, above all, internationally. Different causal links are explored in the literature, predominantly between general crimes and traffic offenses, with an special emphasis on repeat offending (Broughton, 2007; Palk and Davey, 2005; Rose, 2000); between antisocial or negative behavior (homicide, robbery, consumption of alcohol and illicit drugs) and dangerous driving (Everett et al., 1999; Marshall et al., 1996); and to a minor degree, the relationship between general criminal behavior and RTAs (in terms of numbers of accidents, fatalities or injury rates) (Giacopassi and Forde, 2000; Porterfield, 1960). Although there is a general consensus as to the main theoretical hypotheses that a strong correlation exists, certain authors state that this might be spurious and that the statistical association between crime and RTAs is actually the result of a common causal process related to the socioeconomic context (age and sex, risk exposure to accidents, income level, unemployment, etc.) (Junger et al., 1995a, 1995b; Junger and Tremblay, 1999; Sivak, 1983).

The contribution to the literature made by the current study falls into this field. The main aim is to examine econometrically and using panel data the association between criminal behavior and per capita traffic fatalities for the 28 current member States of the European Union (EU28) for the 1999–2010 period. We aim to test the hypothesis that crime rates (and specifically, motor vehicle-related crimes) can be considered as predictors of fatal RTAs. Following Brace et al. (2009) and Giacopassi and Forde (2000), there has been very little research that specifically explores the effects of the relationship between general criminal behavior and involvement in accidents.

We consider that our research has several advantages over previous studies that guarantee its originality. Firstly, this issue has received some attention from researchers in certain countries who have analyzed the issue at the national level; although, to our knowledge, no previous study considers a broad panel of countries, or focuses specifically on the influence of criminal behavior (not only general crime, but also specific motor vehicle crime) on death from traffic accidents.

Secondly, our study also aims to explore the role of the legal system in the relationship between criminality rates and RTAs from a geographical point of view, for the EU28 countries. Logically, the EU28 countries show a heterogeneous spectrum of cultural attitudes and social norms (Vereeck and Vrolix, 2007), and also a wide range of legal frameworks for traffic (e.g., several countries with better road safety records, such as the Netherlands, process traffic offenses under administrative laws, while other leaders, such as the United Kingdom, apply a criminal traffic law system; ETSC, 1999). In fact, some studies state that compliance with the traffic regulations (and with general law) in each country is dependent not only on the social attitudes of road users or certain behavior, but also on the optimization of the law and its enforcement (TLE for traffic), which should form part of a global strategy to improve road safety: legislation, education, enforcement and judicial procedures (see e.g., Wegman, 1992).

The effects of changes in the level of sanctions (tickets and fines, jail sentences, driver's licenses based on points systems) and of overall enforcement actions (number of police officers, number of breath tests for alcohol/drugs, speed cameras) on road safety performance (in terms of accident rates) have been widely analyzed by economic research seeking the optimal allocation of scarce resources, but the findings have been inconclusive. Nevertheless, there seems to be general agreement that the enforcement of road rules should be aimed primarily at deterrence and accompanied by public awareness campaigns (as e.g., Luoma et al., 2012, conclude for the Finnish case of a reduced threshold for the automated fixed speed enforcement system). Deterrence should be unpredictable and difficult to avoid, with a mixture of highly visible and less visible activities and continued over a long period of time as the effects are short term (Stanojević et al., 2012; Zaal, 1994), and even more so bearing in mind that Yannis et al. (2008) have found that more intensive enforcement has a different impact on accidents with casualties and fatalities at the national and regional levels.

Authors such as Deshapriya and Iwase (1996) and Tay (2005, 2010) have paid special attention to the severity of sanctions as a deterrence mechanism to increase an individual's perceived risk of apprehension and punishment. In the road safety arena, stricter sanctions seem to achieve better and faster results if they are mainly determined by legislation and the administrative/judiciary system (i.e., the introduction of tougher jail sentences and punishments may reduce traffic violation rates, albeit for a limited period of time; see, for example, a wide variety of cases, such as Castillo-Manzano et al. (2011) for Spain; Li et al. (2014) for Hong Kong; Liberatti et al. (2001) for Brazil; Montag (2014) for the Czech Republic and Sen (2001) for Canada). Therefore, this paper examines the nature of the most severe legal systems as determining factors of the level of EU28 road safety.

In short, we attempt to determine if there is any clear correlation between road fatality rates and mainstream types of crime on the international level, which would serve to justify, at least *prima facie*, the increasingly widespread tendency to consider traffic offenses as crimes and toughen the penalties imposed by the penal codes. Following this argument, we simultaneously analyze whether the degree of severity of the legal system applied to traffic offenses is a good tool in Western societies' constant struggle to take the tragedy out of RTAs.

After this theoretical introduction, the following sections present the methodological framework for the research, a discussion of the findings and, finally, a summary of the main conclusions.

2. Variables and methodology

The empirical analysis uses a fixed-effects model that takes the following form for country i during period t:

$$Y_{it} = \alpha + \beta_k X_{it} + \gamma_k Z_{it} + \lambda_k W_{it} + \mu_i + \nu_t + \varepsilon_{it} \quad (1)$$

where Y_{it} is the log of the total per capita fatality rate (within 30 days of the accident, as per the Vienna Convention definition),[1] X_{it} refers to variables that identify the criminal attitudes of the country's inhabitants, Z_{it} contains the vector of the country's

[1] Albalate (2008), Albalate and Bel (2012), Dee (2001) and Eisenberg (2003) consider that this is the most appropriate dependent variable for assessing road traffic fatalities as the interpretation of policy variables is clearer.