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Assessing specific deterrence effects of increased speeding penalties using four measures of recidivism



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ABSTRACT

Traffic law enforcement sanctions can impact on road user behaviour through general and specific deterrence mechanisms. The manner in which specific deterrence can influence recidivist behaviour can be conceptualised in different ways. While any reduction in speeding will have road safety benefits, the ways in which a 'reduction' is determined deserves greater methodological attention and has implications for countermeasure evaluation more generally. The primary aim of this research was to assess the specific deterrent impact of penalty increases for speeding offences in Queensland, Australia, in 2003 on two cohorts of drivers detected for speeding prior to and after the penalty changes were investigated. Since the literature is relatively silent on how to assess recidivism in the speeding context, the secondary research aim was to contribute to the literature regarding ways to conceptualise and measure specific deterrence in the speeding context. We propose a novel way of operationalising four measures which reflect different ways in which a specific deterrence effect could be conceptualised: (1) the proportion of offenders who re-offended in the follow up period; (2) the overall frequency of re-offending in the follow up period: (3) the length of delay to re-offence among those who re-offended; and (4) the average number of re-offences during the follow up period among those who re-offended. Consistent with expectations, results suggested an absolute deterrent effect of penalty changes, as evidenced by significant reductions in the proportion of drivers who re-offended and the overall frequency of re-offending, although effect sizes were small. Contrary to expectations, however, there was no evidence of a marginal specific deterrent effect among those who re-offended, with a significant reduction in the length of time to re-offence and no significant change in the average number of offences committed. Additional exploratory analyses investigating potential influences of the severity of the index offence, offence history, and method of detection revealed mixed results. Access to additional data from various sources suggested that the main findings were not influenced by changes in speed enforcement activity, public awareness of penalty changes, or driving exposure during the study period. Study limitations and recommendations for future research are discussed with a view to promoting more extensive evaluations of penalty changes and better understanding of how such changes may impact on motorists' perceptions of enforcement and sanctions, as well as on recidivist behaviour.

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1. Introduction

Evaluating the effectiveness of road safety countermeasures is a vital step in developing safer systems for road users. Behavioural countermeasures have typically aimed to reduce road trauma by deterring road users from committing illegal road behaviours through the threat of detection and punishment (i.e., general

In respect to road safety, the term 'recidivist' is typically used to describe those drivers with multiple offences¹ and is often

deterrence) and through the administration of appropriate sanctions to those who are detected (i.e., specific deterrence). Specific deterrent effects are typically assessed by measuring changes in reoffence or recidivism rates, because this form of deterrence relates only to those people who have already been apprehended and punished at least once for the behaviour in question, and thus entails assessing the subsequent behaviour of offenders.

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¹ It is important to note that a recidivist is someone who, by definition, performs the target behaviour more than once. However, engaging in illegal behaviour and

used interchangeably with 'repeat offender', 'persistent offender', 'habitual offender' and 'hard core offender' (Freeman et al., 2006; Hedlund and Fell, 1995; Styles et al., 2009; Yu, 2000). However, recidivism can be conceptualised in a number of different ways, with each having the potential to provide a different outcome for assessing countermeasure effectiveness. For example, it could be argued that a driver who unintentionally commits two low range speeding offences within a given time period is significantly different to a driver who persistently, intentionally and excessively exceeds speed limits. This latter type of driver might more appropriately be termed a 'persistent' or 'hard core' speeding offender. Unfortunately, there is limited guidance in the literature to assist in determining the optimal way to define a recidivist in the speeding context.

While road safety sanctions are ultimately developed to eliminate high-risk and illegal driving behaviours altogether, known as absolute deterrence (Gibbs, 1979), this is a relatively unrealistic aim in relation to all road users. Thus, marginal deterrent effects (see Section 1.2.1 for a more in-depth discussion), whereby illegal behaviours are suppressed but not eliminated, can also be argued to be indicative of road safety benefits associated with a countermeasure (Grasmick and Bryjak, 2001; von Hirsch et al., 2000). Consistent with this argument, determining the net safety benefit of any penalty change on offender behaviour would require measuring both its absolute and marginal specific deterrent effects.

1.1. The function of sanctions

There are three important components of traffic law enforcement: traffic laws, traffic policing; and sanctions (Nichols and Ross, 1990; Watson, 1998), the latter of which is particularly relevant to the current paper. There are a variety of legal sanctions applied across jurisdictions including: monetary fines; vehicle sanctions (e.g., impoundment and immobilisation); licence sanctions (e.g., demerit points, disqualification); remedial programmes (e.g., rehabilitative and educational); and confinement (e.g., jail) (Watson, 1998). In addition, sanctions fulfil a number of functions including retribution (i.e., balancing crime with punishment); restraint or incapacitation (i.e., limiting the capacity for an offender to commit further offences); reform (i.e., rehabilitation and the deterrence of re-offending through fear of punishment - specific deterrence); and more generally deterring offending behaviour by raising awareness of the threat of punishment (Duff, 1996; Watson, 1998). The effectiveness of sanctions in modifying driver behaviour is far from clear and requires considerably more focus in the road safety literature (Weatherburn and Moffatt, 2011).

1.2. Deterrence theory principles

Deterrence principles underpin many road safety programmes and make the assumption that drivers actively consider the consequences of their actions each time they drive (Harrison, 1998; Homel, 1988). Deterrence theory posits that legal threats are considered according to the perceived risk of punishment, and that this risk is determined by a combination of the perceived risk of being apprehended and the perceived certainty, severity, and swiftness of legal sanctions associated with apprehension (Ross, 1982). Two forms of deterrence commonly discussed in the road safety literature are general and specific deterrence. While both forms serve the same mechanism – to discourage people from engaging in the

being detected are not synonymous. When dealing with data from official records, such as in the current study, one is only able to draw conclusions about offences that are detected, rather than illegal behaviour overall. Thus, in this paper, the term offender is used only to denote drivers who were detected speeding.

target behaviour through the threat of legal consequences – the relevant audience for each form differs. General deterrence refers to the fear or threat of punishment (real or perceived) aimed at individuals who have not yet performed the behaviour in question, while specific deterrence refers to the actual impact of legal punishments associated with an offence and is therefore aimed at those who have already offended (Homel, 1988; von Hirsch et al., 2000). Two other forms of deterrence are also relevant to the research described in this paper: absolute and marginal deterrence.

1.2.1. Absolute and marginal deterrence

At the broadest level, road safety penalties and sanctions aim to eliminate risky/illegal road use altogether via the process of absolute deterrence, where offenders are deterred from ever reoffending (Gibbs, 1979). Realistically, however, some offenders may not be deterred at all while others may only be partly deterred. For example, the illegal behaviour may become suppressed but not eliminated altogether, such as a greater delay before re-offending or offending in a less severe manner. This partial deterrence of illegal behaviour is generally referred to as the marginal deterrent effect of a penalty or sanction (Grasmick and Bryjak, 2001; von Hirsch et al., 2000). In this regard, it could be argued that any reduction in the illegal behaviour among offenders will have road safety benefits, even if the behaviour is not totally eliminated.

Across the criminological literature, there are mixed findings in relation to the components of deterrence as they relate to sanctions. Specifically, there is limited evidence suggesting the effectiveness of increasing the swiftness of punishment (Fildes and Lee, 1993; Nagin and Pogarsky, 2001). Increasing punishment severity alone has also been found to produce very few improvements in rates of offending and recidivism (Mann et al., 1991), unless such increases are associated with perceptions that the risk of detection and apprehension for committing the offence is high (Briscoe, 2004; Homel, 1986; von Hirsch et al., 2000). Changes to sanctions relate directly to the concept of perceived severity of punishment. Theoretically, if increases in penalties fail to alter beliefs about the likelihood or severity of punishment, such increases are unlikely to deter behaviour. Furthermore, deterrence relies not only on what potential offenders believe the risk of receiving sanctions to be, but also on how they evaluate such risks. The subjective nature of deterrence principles requires that potential offenders know about changes to sanctions and perceive such changes as producing meaningful increases in the risk of detection and punishment (von Hirsch et al., 2000). However, some research has suggested that offenders may not perceive deterrence principles in an homogenous manner. For instance, a recent study of serious youth offenders reported that more serious offenders (based on the frequency of prior offending) were more likely than less serious offenders to hold lower perceptions of the risks associated with detection and punishment, to perceive the rewards associated with offending as being greater and the costs associated with offending as lower (Loughran et al., 2012). It was argued by the authors that these differences create ceiling and floor effects in perceptual deterrence and help explain why more serious offenders may not be as readily deterred by enforcement and sanctions. Although research about perceptual deterrence mechanisms is limited in the driver behaviour field (compared to the criminal offender field), there is some evidence to support this mechanism in the driving context. For example, Mann et al. (2003) found evidence of differential effects relating to changes in licence suspension laws for drink driving (i.e., immediate licence suspension if the blood alcohol level was above 80 mg% or if a breath sample was not provided), such that those who reported less drinking (social or moderate drinkers) appeared to be deterred (i.e., they stopped driving after drinking) when compared to heavy alcohol drinkers who continued to drink and drive.

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