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SWOV Fact sheet

Demerit points systems

Summary

In 2012, 21 of the 27 EU Member States had some form of demerit points system. In theory, demerit points systems contribute to road safety through three mechanisms: 1) prevention of unsafe behaviour through the risk of receiving penalty points, 2) selection and suspension of the most frequent offenders and 3) correction of risk behaviour through an educative element in the demerit points system. International studies show that in practice the effects of a demerit points system can indeed be significant, but that these effects exist only for a (very) limited period of time. Since 2002, the Netherlands has had a simple demerit points system for novice drivers and since 2011 for drink driving as well. A condition for a lasting effect of demerit points systems is a large – and continuous – objective and subjective probability of actual withdrawal of the driver's licence. This probability is closely connected to a sufficiently high level of enforcement, efficient methods of enforcement and frequently returning publicity on the enforcement and the number of people whose licence has been withdrawn.

Background and content

Traffic rules aim at promoting a safe and rapid traffic flow. However, these rules are violated very often. Offenders are punished in order to achieve traffic rule compliance. The added value of a demerit points system is that it takes recidivism into account: repeat offenders of the rules are punished more severely. This fact sheet describes what a demerit points system is and how it works. Next, it discusses the effects of the demerit points system as a method to prevent further traffic law violations or crashes. In addition, it gives a description of the current status of the demerit points system in the Netherlands. Finally, this fact sheet gives an overview of the European BestPoint project's recommendations to increase and prolong the safety effect of demerit points systems and of the potential unwanted effects that should be taken into account.

What is a demerit points system?

In a country using a demerit points system, demerit points are meted out to the offender in addition to the normal penalty for the offence. In nearly all current demerit points systems offenders receive more demerit points when the offence is more serious. Sometimes, for example in the Netherlands, only the number of (serious) offences is counted. If a certain points limit is exceeded, revocation of the licence follows. Usually, the licence will simply be declared valid after a certain period of time; sometimes the offender has to take a driver test or has to pass the driving test again. In nearly all countries that have a demerit points system, points are subtracted when the offender is not fined for an offence that falls under the demerit points system for a certain (long) period. In addition, most countries offer the possibility to reduce the number of points by taking part in what are known as 'driver improvement courses'. All in all, there are many different forms in which the demerit points system is used. Recently, an inventory and a description was made of these different forms in the European research project BestPoint (Klipp et al., 2011).

How does a demerit points system work?

In theory, demerit points systems contribute to road safety through the mechanisms of *prevention*, *selection*, and *correction*.

Prevention

The preventive effect of a demerit points system lies in the risk of losing the driving licence if caught for offences repeatedly. This is an extra reason to obey the traffic laws. A general preventive effect should be found in a decrease in the number of offences for all drivers: they drive more carefully, in order to avoid getting a demerit point. A special preventive effect should be shown by a decrease in the number of offences by drivers who have already been imposed a number of demerit points after an earlier offence: they drive more carefully to avoid getting another point.

Selection

If a demerit points system can withdraw road users who often behave dangerously from traffic participation, before they have actually caused a crash, this may be good for road safety. A demerit points system can only be an effective means of selection if demerit points or offences are indeed a good predictor of future crashes and if repeat offenders are tracked down in time.

Correction

Systems in which drivers can have the number of points reduced by following a driver improvement course have an educational element that is intertwined with the preventive effect. A demerit points system with educational elements can only work if it is proven that a course is effective and results in a change of behaviour.

What is known about the general preventive effect of a demerit points system?

Although more and more countries implement a demerit points system - 21 of the 27 EU member states had demerit points system in 2012 - rather little is known about their effects. The decrease in the number of crashes in the first year after the introduction is often taken as evidence of the effectiveness of the demerit points system. The decrease generally is considerable in the first months after the introduction. For example, a meta-analysis of 24 effect measurements in various European and non-European countries (Castillo-Manzano & Castro-Nuño, 2012) shows a decrease of between 15 and 20% in the number of crashes, fatalities and injuries. However, on average the effect has disappeared after less than eighteen months. The effects were the largest and most long-lasting in countries in which the original safety level was relatively low.

It must be noted that determining the effect of a demerit points system is quite complex. Often, many more factors are involved than just the points system, factors that change over time and influence the number of crashes. In addition, the introduction of a demerit points system nearly always coincides with a (temporary) increase in enforcement and with public campaigns, which makes it impossible to establish the extent to which effects can be attributed to each factor.

How large is the special preventive effect of a demerit points system?

In Canada, Redelmeier, Tibshirani & Evans (2003) looked at the preventive effect for drivers who had already received a demerit point. They found that only in the first period (of more than a month) after having received a demerit point the crash rate of these drivers dropped. After this period, the crash rate returned to the same level as before. Moreover, this effect was only found where it concerned offences for which points of light to average severity were given. If it concerned serious offences, there was no statistically significant effect on the crash rate. This suggests that the small group of serious offenders does not care about the consequences of a demerit points system, and carries on driving in the same manner as before. Indications for a special preventive effect have also been found in Australia and the UK. Research in these countries (Hague, 1987; Corbett et al., 2008) shows that when drivers approach the limit of the maximum number of points allowed, the period between the identified offences for which points are imposed, increases. It must, however, be noted that in the UK someone else can take the responsibility for an offence and, hence, receive the demerit point (in return for money) because of the reversed burden of proof that is applied there. This way it is possible not to collect any demerit points by paying others willing to take the blame for the offence.

How large is the selective function of a demerit points system?

Research (Chen et al., 1995; Daimantopoulou, 1997) has shown that especially serious offences (involving many demerit points) are good predictors of future crashes. The relation is strongest with young novice drivers. Such a serious offence already had so much predicting power that a second or third one hardly added any value. This would mean that from a safety point of view, licence withdrawal can best take place after a first serious offence and that withdrawal on the basis of multiple (serious) offences might come too late. The selective effect of a demerit points system on road safety is therefore assumed to be negligible.

How large is the corrective effect of a demerit points system?

Driver improvement courses attempt to change behaviour and attitude. Some meta-analyses have been done on the effect of such compulsory trainings. An overview of these studies can be found in the SUPREME report *Rehabilitation and Diagnostics* (SUPREME, 2007). Missing in that overview is the meta-analysis made by Ker et al. (2005). The meta-analyses show that on average, this type of

courses has very little to no effect. Nevertheless, some courses show a clear decrease in recidivism; almost all of these courses are aimed at the prevention of drink-driving. See for more information the SWOV fact sheet [Rehabilitation courses for road users](#).

How does the licence on probation in the Netherlands work?

Since 2002 there has been a rather simple demerit points system for novice drivers in the Netherlands. The driving skills of those who, in the five years after having obtained their driving licence, commit three serious offences, are tested. This test is compulsory. If the driving skills prove to be insufficient, the driving test must be taken again. Research has not shown any general preventive effect (Vlakveld & Stipdonk, 2009). Since the introduction of this beginner's licence, the number of serious crashes among young drivers (many of whom had such a licence on probation) has not decreased more than the number among a group of somewhat older drivers (of whom only a small percentage had a licence on probation). One reason for the lack of effectiveness may be that only serious offences for which drivers have been halted by the police, are taken into account in the Netherlands. The risk of getting caught for such offences is relatively low. Moreover, at the time of the evaluation, the points had not yet been meted out in all relevant cases. This may also have contributed to the fact that no effect was found.

Since June 2011, the Netherlands also use a demerit points system for drink driving. This means that the driving licence is suspended if a driver is convicted for driving under influence for the second time in five years, no matter the number of years of driving experience. This is done only if the second time the blood alcohol content is higher than 1.3‰. After the period in which the driving licence was suspended, the driver must take the official driving test again.

At regular intervals, a general demerit points system is also discussed in the Netherlands. As yet this has not resulted in concrete actions.

What effects can a general demerit points system be expected to have in the Netherlands?

As indicated before, the possible effects of a demerit points system are a general preventive effect for everyone and a special preventive effect for those who have received one or more points. On the basis of research by Redelmeier and colleagues in Canada, SWOV has calculated the possible special preventive effect of a general points system in the Netherlands before. The conclusion was that extension of the current license on probation (only for serious offences for which one is halted by the police) would only save only a single fatality per year (Vlakveld, 2004). If all, or nearly all small offences and offences registered by number plate would be taken into account too, that could save a maximum of ten fatalities per year, and this number could be somewhat higher in the year of introduction (Goldenbeld & Twisk, 2009). The abovementioned meta-analysis by Castillo-Manzano & Castro-Nuño takes into account the special as well as the general preventive effect and indicates an effect that is quite a lot bigger, namely 15-20%, that is in the first one and a half year after the introduction. For various reasons, this effect is not expected to be reached in the Netherlands. The Netherlands has a relatively high level of road safety, already uses a points system (for novice drivers and drink driving) and at the moment, points can only be meted out for offences for which one is halted by the police, so this cannot be done automatically recognized offences (through number plates). An estimation of the expected safety effect for the Netherlands can only be made on the basis of a specific Dutch plan that would need to be drawn up.

Is there public support for a demerit points system in the Netherlands?

In general, there is a lot of public support for demerit points systems. This is probably so because points systems meet people's feelings about justice: a repeat offender should be punished more severely. Ten years ago, more than 80% of all Dutch was in favour of a points system for all drivers (Groeneveld, Frederikse & Mazor, 2002). There are great expectations of such a system: Groeneveld et al. found that 33% of the Dutch would expect a large road safety improvement after the introduction of a general points system, and a further 23% would expect a fairly large improvement.

How can a longer lasting effect of a demerit points system be established?

As indicated earlier, at this moment a points system is only effective in the first short period after its introduction. Within the European BestPoint project an assessment has taken place on how a points system can best be worked out in such a way that the odds of a lasting effect are larger. (Goldenbeld, Van Schagen & Valkveld, 2012; Van Schagen & Machata, 2012).

The most important condition seems to be that there is a considerable (objective and subjective) probability of withdrawal of the driver's licence for repeat offenders. This means that the probability of detection must be sufficiently high and that there needs to be frequent communication about the enforcement and the number of withdrawn driver's licences. In order to establish a sufficiently high probability of detection, it is necessary to also mete out points for offences that are automatically detected, not just for offences for which one is halted by the police. Since the demerit points are intended for the offender, and not for the registered licence holder, problems can occur in countries in which offences detected by camera are dealt with via the registered licence holder, as in the Netherlands. In most countries this problem is solved by making it obligatory for the registered licence holder to identify the driver.

Other recommendations of the BestPoint project are, amongst others (Van Schagen & Machata, 2012):

Points and offences:

- Only mete out points for offences that are directly related to crashes or the level of severity of crashes.
- The more serious the offence is, the more points should be meted out.

Target groups

- Set up special requirements for novice drivers.
- Also aim at professional lorry drivers and their specific offences in the system..
- Test alcohol and drug offenders for addiction, early on and thoroughly.

Extra measures in four steps:

- Send drivers with demerit points letters of warning..
- For those with more points, offer a driver improvement course.
- Suspend the driver's licence when the set limit is reached.
Offer rehabilitation courses through which drivers can receive their driver's licence back.

Which undesirable behaviour can a demerit points system encourage?

Points systems may also have some undesirable side effects which should be taken into account.

Driving without a driving licence

If a penalty (in this case not being allowed to drive anymore) hits a motorist hard, but the enforcement of the penalty is weak, he/she will soon be inclined to ignore the penalty. In the UK, 40% of the drivers whose driving licences were suspended due to the demerit points system, admitted in a survey to still drive (Knox et al., 2003). One might imagine that drivers without a licence would follow all the rules strictly so as not to get caught. Yet the aforementioned survey showed that the crash rate of drivers without a driving licence was 3 to 9 times as high as the average crash rate for all drivers.

Hit-and-run crash

Another undesired side effect of a demerit points system is that the inclination to drive on after causing a crash will increase, in order to prevent receiving extra points. There are no known objective figures about the size of this undesirable side effect.

Buying and selling of points

If automatically detected offences are taken into account in a points system as well, and the driver cannot be identified, finding out who was the driver must be done via the registered licence holder. This may lead to paying others with no or few points who are willing to take the blame for the offence. Experience shows that this getting rid of points mostly occurs within families and circles of friends, but there are also indications that (a lot of) money can be involved. Again, objective figures about the size of this problem are lacking.

Conclusions

International studies show that the effects of a demerit points system can be considerable, but that these effects only last for a (very) short period of time. The limited effect in time is probably related to an initial overestimation of the probability of withdrawal of the driver's licence. The effect of a points system can probably be prolonged by increasing the objective and subjective probability of detection in a lasting way: through a sufficient level of enforcement, effective methods of enforcement, among which automatically detected offences, and repeated publicity on this enforcement and the number of

withdrawn driver's licences. However, the undesired side effects must also be reckoned with. There is no information available to make a cost-benefit analysis.

Publications and sources

(Dutch SWOV reports have an English summary)

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