Summary

Evaluation of Norway's driver demerit point system

TØI has evaluated the Norwegian system for driver license demerit points. Analyses of the demerit point register show that drivers who are at risk of license revocation due to a high number of demerit points reduce their risk of further traffic violations. In 2011 the system was changed to the effect that drivers with a probationary license (first two years after licensing test) incur twice as many demerit points for each violation, compared to full-license drivers. This is a possible explanation of the finding that novice drivers have reduced their crash involvement risk more than the general driving population. A questionnaire study confirms the analyses of register data, showing that drivers with the highest number of demerit points report to have changed their driving behaviour most positively as a consequence of the demerit point system in general as well as the fact that they have incurred demerit points.

Commissioned by the Norwegian Ministry of Transport and Communications, the Institute of Transport Economics has evaluated the system of driver license demerit points in Norway, and this report presents the results of the evaluation project.

Norway's demerit point system was introduced January 1, 2004. The purpose of the system is increased road user safety and fewer road traffic fatalities and severe injuries, by means of license revocation after repeated violations that singly do not qualify for revocation.

The demerit point system is supposed to present predictable reactions to traffic offenders who put themselves and other road users in danger. The system also intends to simplify the task of Police to revoke the license.

After an evaluation based on experiences from 2004 to 2007 the system was extended and strengthened from July 1, 2011, by inclusion of additional offenses and the introduction of double demerit points for novice drivers.

In general, a violation entails three demerit points (with the exception of minor speeding violations resulting in two points) for full-license drivers and six points for probationary-license drivers, and drivers with eight or more points in a three-year period get their license revoked for six months (and all previous points are deleted).

Our evaluation focuses on effects of the demerit point system after the changes in 2011. It comprises four subprojects:

1. Analysis of media coverage of the new demerit point system;
2. Analysis of the national demerit point register;
3. Analysis of crash data,
4. Questionnaires among drivers in general and drivers having incurred demerit points.

Media coverage

The changes in the demerit point system were frequently commented on by various media during 2011, and less frequently in subsequent years. It is easy to find basic information about the system on the internet, e.g., on the official website of the Norwegian Public

Roads Administration, but thorough descriptions of all the regulations and criteria related to the demerit point system are rarely found in other media. There is, however, good reason to believe that the coverage in 2011 has contributed to making the main contents of the system known to a majority of drivers.

Analysis of register data

Demerit points are enforced by the Police, who report each instance to a register administered by the Norwegian Public Roads Administration. With permission from the Police Directorate we analysed data for the three-year period from July 1, 2011 to June 30, 2014 for drivers who did not have any demerit points incurred during the latest three years preceding the analysis period. The analysis period was divided into one-year subperiods, and we estimated probabilities of incurring new demerit points in Period 2 and 3 as a function of points incurred in Periods 1 and 2, respectively.

The results showed that the probability of additional demerit point violations decreases significantly when a driver has incurred four or more demerit points, which means that the driver has received a warning letter and possibly risks license revocation after one additional violation.
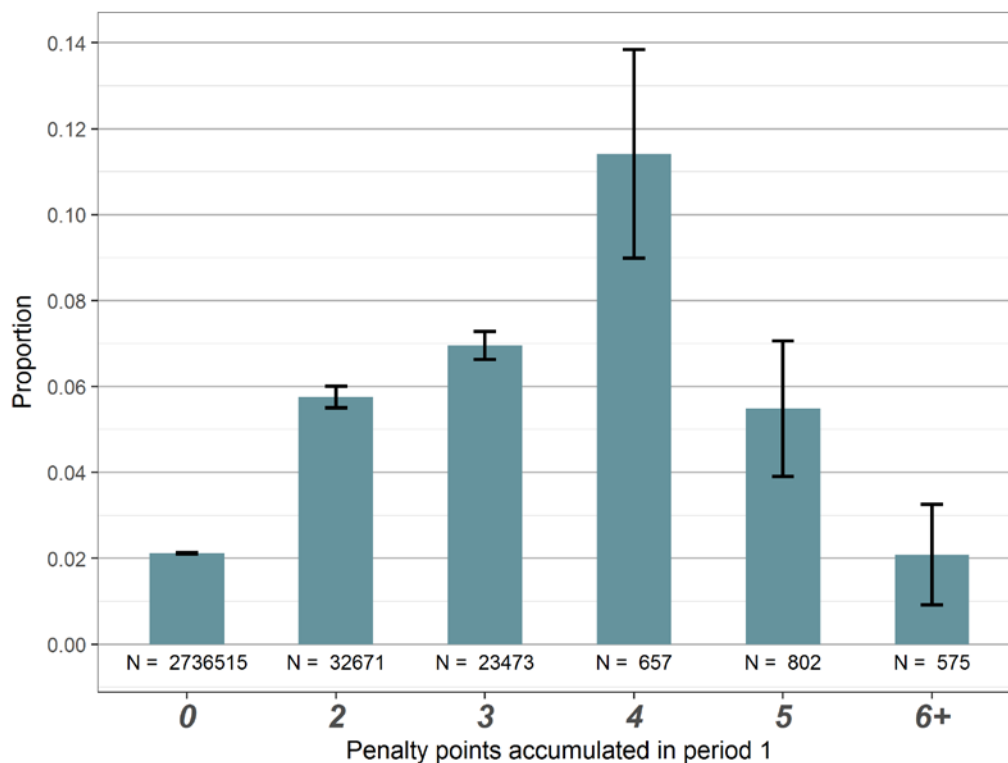

Figure S-1. Proportion of drivers with new penalty points or license revocation in period 2 (1.7.2012 – 30.6.2013) grouped by the number of penalty points accumulated in period 1 (1.7.2011 – 30.6.2012). 95 % confidence intervals for the estimated proportion are marked on the bar plot.

In addition, for probationary-license drivers we find that drivers with four or more points have a lower probability of additional points than drivers with no previous points. This may indicate that the deterring effect of the demerit point system is stronger among probationary-license than among full-license drivers.

Crash involvement

In order to investigate the effect of double demerit points for novice drivers, we compared changes in crash risk from before to after 2011 (excluding that year) between drivers aged 18 or 19 years and drivers over 20 years. The decrease in police-reported crashes (personal injury crashes) per license was significantly larger among 18- and 19-year-old drivers than among the remaining driver population (44% vs. 35% decrease). Analysis of crashes reported to insurance companies (mainly property damage only) yielded similar results. Even though there may be alternative explanations, these results are consistent with a positive effect of the demerit point system on road safety.

Driver survey

The web-based survey included questions about number of speeding fines, knowledge about the demerit point system, self-reported effect of the system on driving behaviour, attitudes to the system, and changes in driving behaviour among drivers who had incurred demerit points.

The survey was administered to four driver samples: a) drivers having held a license for the latest two or more years who had incurred two or three points; b) drivers having held a license for the latest two or more years who had incurred four or more points; c) drivers with a probationary license who had incurred four or more points; d) a random sample from the driver license register, irrespective of incurred demerit points.

The results showed that a majority of the drivers know that certain specified violations result in demerit points, although few could tell the correct number of points for each violation. Furthermore, a large proportion of the drivers show limited knowledge about the system, either by indicating one or more points for violations that do not entail demerit points, or by replying "zero" for some of the violations that actually entail demerit points. The proportion of drivers giving correct answers to the knowledge questions is highest among drivers with demerit points.

The survey confirms the results from the analysis of register data regarding the tendency of drivers with many points reporting to have changed their driving behaviour. Drivers with four points or more reply to a larger extent that they have become more law-abiding, compared to those who have few or no points. But even among drivers without points there is a considerable share who report that their driving is influenced by a fear of demerit points. Thus, the demerit point system seems to have a general deterring effect in addition to the effect on drivers who are at risk of losing their license at the next violation.

Conclusions

The analyses of the demerit point register show clearly that the probability of additional demerit point violations decreases among drivers who are at a high risk of losing their license if they incur more points. This is found both for full-license and probationary-license drivers.

The analyses of crash involvement show a larger risk decrease from before to after 2011 among probationary-license drivers compared to full-license drivers. Introduction of double demerit points for novice drivers from 2011 is a possible explanation of this finding.

These findings imply that the demerit point system contributes significantly to increased road safety.