Experience rating and point-record driving licenses in automobile insurance

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Experience
rating

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- Aim: Investigate whether the point-record driving licenses would improve the experience rating in automobile insurance;
- Statistical analysis of a panel non-life insurance data has been used to investigate the claims process;
- Main finding: the claims process has long-memory $\mapsto$ the predictive ability of the accidents decreases with the lag.

Italian example of point-record

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In Italian system the entry level is 20 points for driving license with the max level of 30 points. The driver has a gain of 2 points for 2 years without violations.

Driver A has no violations, driver B has only a violation in the first year with a penalty of 5 points. This violation has a memory of 18 years!
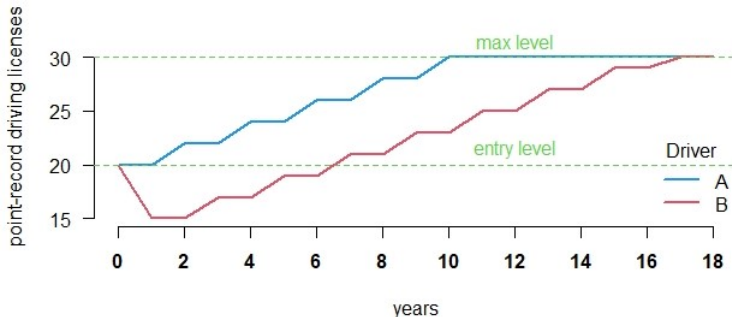
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A *Highly policy relevant* : point-record driving licenses could be an incentive to careful driving;

B *Data source for rating* : data of public authority about violations are necessary;

C *Interation*:It is necessary evaluate the link between violation and claims frequency;

D *Skill*: New techiques for rating should be developed by actuaries of insurance companies;

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↦ Do we want that insurers using traffic violation for rate-making?

↦ Do we want that rate-making is based on point-record or on entire-history?

- Benefit:
    - Reduction information asymmetry ↦ The insurance premium could be calculated using the driver's behavior;
    - Reduction barriers to entry ↦ New policyholder could have an history of driving;
    - Rating structure ↦ from *a priori* to *a posteriori* rate making
- Downside:
    - Many traffic violations (in Italy) are not recorded on driving licenses;
    - If an insured opens a claim without call the police , the violation has not recorded;
    - Pubblic big-data are necessary and they need available.

It could be useful to provide more empirical evidence about:

$\mapsto$ the trend of recorded traffic violations;

$\mapsto$ the relation between traffic violation and claims;

$\mapsto$ the point-record driving licenses can explain the history of a policyholder (that is linked to hidden features of risk distributions)