PAY-AS-YOU-SPEED INSURANCE

CHINA'S NEW ENERGY VEHICLES

495,592

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Dear readers,

This special edition of the GeneralicarNews will focus on RCAR 2016 international meeting, which took place in Korea in the end of September.
In the following articles you will find some of the most interesting studies and projects, conducted by the Research Centers all over the world.
In particular, you will read some insights on the creation of a new pay-as-you-speed insurance product in Sweden, on the growing Chinese market of the electric vehicles and some statistics on the Autonomous Emergency Braking.

Hope I've piqued you interest and curiosity.
I send you my best regards.

Marco Marello
Pay-as-you-speed Insurance

Folksam (Sweden)

A pilot study was conducted in 2011 in Sweden, a one year Pay-as-you-speed trial with economic incentives for keeping speed limits using Intelligent Speed Assistance (ISA). The full incentive was a 30% discount of the insurance premium. The participants were private insurance customers and they were randomized into a test group (n=135) and a control group (n=90). Drivers in the test group were informed and warned visually when the speed limit was exceeded. They could also follow the driving results on a personal website. The control group was not given any feedback at all.

The evaluation of the concept showed that the proportion of speeding was halved in the test group.

The proportion “red” driving was 14% for the control group and 6% for the test group.

The distribution of speeding was also analysed, and it was found that the reduction was larger when the speeding is higher. The reduced speeding in the test group did not have any large effect on the average speed compared to the control group. The test group had less than 1min longer travel time per hour travelled. The results remained constant over the one-year test period.

The reduced proportion of speeding for the test group can be correlated to reduce risk of fatality and injuries. The fatality risk would be reduced by 20% and the risk of serious injury by 5-10%. The majority of the participants were in favor of the concept (9 out of 10) which indicates the potential of a new insurance product in the future.

This picture shows the proportions of driving according to the speed limit (green), between 0 and 5Km/h above the limit (yellow), and at least 5Km/h above the speed limit (red).
Pay-as-you-speed insurance

Folksam (Sweden)

Because of the positive outcome of the trial in 2011 showing that a “Pay-as-you-speed insurance” could be an important step towards a safer road transport system, Folksam decided to develop such an insurance product.

In 2015 Folksam started a cooperation with Telia, the largest telecompany in Sweden. They will launch a 4G platform for cars allowing full internet access in cars. The “box” is connected via the OBD.

The driver data is collected via Telia Sense and is the basis for possible premium discounts depending on you ability to keep the speed limit. The discount and driving data is presented in an app making it possible for you to see how your driving behavior is affecting your insurance premium.

In addition, for measuring speeding, also other parameters mirroring driver behaviors will be controlled, such as hard braking and vehicle acceleration.

The product, named “Köra Säkert”, has been launched on Autumn 2016.

It also has GPS and Bluetooth. A LED indicator is easily installed in the vehicle and gives immediate feedback on speeding. Green light means that you are keeping the speed limit. Yellow or red means: slow down! (Red = +5Km/h).
China’s New Energy Vehicles

China Insurance Research Institute - Automobile Technology Institute

China has encountered severe challenges from energy and environment brought by automobile sector. The total emissions of automobiles are over 39.6 million tons, taking up to 87% of the total emissions of motor vehicles.

In order to cope with these challenges, China’s government started made a strategic plan for developing NEVs (New Energy Vehicles) in 2009, lead by the Ministry of Science and Technology.

In this strategic plan, China’s government defined three categories of electric vehicles as NEVs, they are Plug-in Hybrid Electric Vehicle (PHEV), Battery Electric Vehicle (BEV) and Fuel Cell Electric Vehicle (FCEV). These three types of vehicles are eligible for government incentives. Therefore, many OEMs have developed technologies and products to enhance their competence in NEVs sector.

Sales volume of electric car

Production volume of electric car

PHEV
Plug-in Hybrid Electric Vehicle
China’s New Energy Vehicles

The 2nd phase plans to promote vast application of new energy products in both fleet and private market.

The industry is optimistic towards 2020’s goal about electric cars as the following picture shows. This will definitely cast impacts on auto insurance sector as well.

![BEV Battery Electric Vehicle](image1)

**BEV**
Battery Electric Vehicle

![FCEV Fuel Cell Electric Vehicle](image2)

**FCEV**
Fuel Cell Electric Vehicle

The 1st phase of the program has the aim to overcome technology barriers and develop qualified products. The government encourages enterprises to research and develop new energy products, advanced power batteries, advanced electric driving motor and high-voltage controllers.

The impacts are mainly on pricing and risk management perspectives because China’s auto insurance quotes are mainly rely on history claims data and sticker price, which both cannot precisely and appropriately apply to NEVs. Therefore, CIRI will conduct research and testing in the future to identify and rate the risk factors of NEVs as insured target and provide training and consulting service to motor insurers in China. These risks are divided in the repair uncertainty category, which includes the lack of repair and replace standards and the high prize of the components, and the failure mode disparity category, which includes the power battery electrochemical mechanism and their fire risk.
Fitment Rates of AEB in Sweden

Folksam (Sweden)

Many studies have shown large crash and injury reductions thanks to AEB (Autonomous Emergency Braking). It is to date one of the most important safety technologies in cars. It is important to have a fast implementation on the market. In Sweden the first car to have City AEB as standard was Volvo XC60 in 2008. Since many car models have been introduced with both city and interurban AEB as standard. However still a large proportion have it as optional and for many models there is a mix of versions with AEB as standard, optional and not available.

In this study fitment rates of City AEB and Interurban AEB were studied between the years 2012 and 2016 on the Swedish market. The following groups were formed for each model.

- Standard on all versions of each model
- Mix of standard, optional, not available on the versions of each model
- Optional on all versions of each model
- Not available on any of the versions of each model

Looking at sold models the proportion of standard fitment is much larger, showing that car buyers in Sweden have it as a requirement when buying a new car. In 2012 18% of the sold models were fitted with City AEB, while 60% had it in 2015.

In 2012 only 5% of the models for sale had it as standard fitment and in 2016 26% of the models has it standard fitment.
Fitment Rates of AEB in Sweden

Folksam (Sweden)

When considering that a proportion of the versions with AEB as optional was sold with AEB, an estimation can be made that approximately 65% of all cars sold in Sweden 2015 were fitted with City AEB.

Regarding interurban AEB data, they were studied from 2015. 13% of the models for sale had it as standard fitment while 37% of the sold models had it as standard.

In the sale models group the AEB is not available for the 52% of the cars.